DOCUMENT RESUME

ED 114 616 CE 005 480

TITLE	Area V Vocational Education Planning Conclusions and Recommendations: Third Report.
INSTITUTION	Area 5 Vocational Planning Committee, Pleasant Hill, Calif.
PUB DATE	Apr 72
NOTE	126p.; For related documents, see CE 005 478-479 and CE 005 481
EDRS PRICE	MF-$0.76 HC-$6.97 Plus Postage
DESCRIPTORS	*County Programs; *Educational Planning; Educational Programs; *Master Plans; *Program Planning; Socioeconomic Status; State Legislation; Surveys; *Vocational Education
IDENTIFIERS	California (Alameda County); *California (Area V); California (Contra Costa County)

ABSTRACT

Conclusions and recommendations regarding the development of an Area Master Plan to provide maximum coordination between vocational, technical, adult, and continuing education agencies within Alameda and Contra Costa Counties, California, are presented. The Area Five Planning Committee, which developed the Master Plan, based its evaluation and study on the Education Code for vocational areas, as stated by the California Legislature. Data from numerous sources was collected and reviewed, educational surveys were developed and conducted, and students, educational personnel, and members of the general public were interviewed. The socio-economic setting of the two county area is described. Discussion of the conclusions and recommendations makes up the bulk of the document, and is arranged in five groups with tables supplementing the presentation: (a) Curriculum--Programs, including program planning and coordination; (b) Related Services, including guidance and counseling, follow-up, cooperative and work experience, and remedial programs; (c) Quality Standards; (d) Articulation, including advanced placement and dual attendance; (e) Public Image; and (f) Business Services, including finance, accounting system, and justification procedures. A consolidation of the recommendations is provided. Planning Committee members, State of California Education Code, Article 10.4, Committee Work Plan, and a bibliography are appended. (LH)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED114616

Area V

Vocational Education Planning

CONCLUSIONS AND RECOMMENDATIONS

- Third Report -

AREA V PLANNING COMMITTEE

April 1972

AREA·V VOCATIONAL PLANNING COMMITTEE
ALAMEDA·CONTRA COSTA COUNTIES
75 SANTA BARBARA ROAD, PLEASANT HILL, CALIFORNIA 94523 (415) 228-3000 Ext. 371

April 30, 1972

California State Board of Education
Board of Governors of the California Community Colleges
Other Appropriate Policy Making Bodies

Ladies and Gentlemen:

The Area V Vocational Planning Committee is pleased to submit this report in accordance with Chapter 6, Division 6, Article 10.4, Section 6268 of the California Education Code.

The Committee considers the master planning effort to be a continuing activity represented by a series of these reports.

It is the intent of the Committee, in writing this report, that many publics become aware of the need for improvement in vocational education and of the problems related to the implementation of such improvements.

In turn, the Committee welcomes comments as to the validity of its conclusions or the usefulness of its recommendations.

Comments regarding vocational education planning or the report may be directed to:

Mr. Larry Harrington, Coordinator
Vocational Education Area Planning
Vocational Education Section
1025 P Street, Room 218
Sacramento, California 95814
Telephone: (916) 332-2330

For the convenience of the reader, a consolidation of the recommendations is provided immediately following this letter.

Sincerely,

William Z. Barnes

William Z. Barnes, Chairman
Area Planning Committee

William F. Banaghan

William F. Banaghan, Director
Vocational Education Planning
Area V

Area V Vocational Planning Committee
RECOMMENDATIONS
FOR IMPROVEMENT OF VOCATIONAL EDUCATION

(a) Education Code 6268.4 "Assess whether a proper assortment, as measured by skill demands determined from local and area employment surveys, of programs in the educational curriculum is offered in the area, while avoiding unnecessary duplication of programs." (Curriculum-Programs)

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

(re: Enrollment under Program Planning)

1. ...each school district establish the policy that every student leave school with a salable skill including, in addition to specific proficiencies, an awareness of the attitudes and personal qualities required for employment, and that the number of students in vocational programs approximate the number who will become employed at the skilled or para-professional level.

(re: Minority Enrollment under Program Planning)

2. ...each school do a self-study to ascertain the kinds of supplemental student assistance programs most effective for minority and other students in that school.

Also see recommendations regarding Remedial Programs(h).

(re: Appropriateness of Enrollment under Program Planning)

3. ...each school clearly define whether each class of instruction now described as preparing a person for entry into an occupation or cluster of occupations is, in fact, designed for that purpose.

4. ...a program with a vocational title that enrolls students in a program for exploratory purposes be described as being an exploratory program.

5. ...to limit the possibility of an oversupply of graduates, coordinators of vocational programs review their most recent placement figures for all programs, but more specifically for the following occupations: draftsman, auto mechanics, clerk typists, licensed vocational nurses & nurses aides, and entry level welders.

(re: Initiation of Program under Program Planning)

6. ...the County Office serve as a coordinating agency (with proper funding) to acquire job market surveys (through H. R. D.), student interest surveys (with the school districts), estimates of current enrollments (from Regional Office), etc., to serve as a base for initiating a program.

7. ...the Vocational Education Advisory Committee, see (a) 20, and the district vocational education staff, review these planning information materials (acquired and processed by county office staff) for purposes of recommending or rejecting the proposed program.

(re: Program Title Ambiquity under Program Planning)

8. ...a system be devised by the State Department of Education which makes it possible for teachers, administrators, students, and representatives from business, industry and government to communicate about a program, or a part of a program, with full confidence that the participants are communicating about the same units of learning.

9. ...the County Office of Education serve as a liaison to the local school districts in the implementation of the system.

(re: Availability of Vocational Education Programs under Program Planning)

10. ...an expansion occur in the kinds of programs available to each student, particularly in the direction of service occupations, distribution and marketing, skilled agricultural occupations, the construction-manufacturing occupations, and selected health occupations.

11. ...each district consider additional alternatives, such as R.O.C.'s, R.O.P.'s, transferable classrooms or trailers, residence schools, provisions for boarding students, etc., to provide greater variety of opportunities.

(re: Regional Occupational Centers and Programs under Program Planning)

12. ...the County Superintendent (in each county) meet with the other superintendents within the county to consider a county-wide feasibility study for multi-district utilization of vocational education to meet the need for all school districts to provide a broader offering of vocational programs.

(re: Adult Education under Program Planning)

13. ...each district consider a policy to make it possible for any person in the district to continue their education through adult programs in basic education, secondary or community college courses and programs.

14. ...all college vocational facilities be available for evening classes.

15. ...a policy be stated jointly by the secondary districts and the community college districts as to the area of responsibility for offering specific kinds of adult education programs.

(re: Manpower Forecasting under Program-Planning Coordination)

16. ...a manpower forecasting system be encouraged which, because of cost and reliability factors, shows a possibility of being continued under the Department of Human Resources Development sponsorship.

17. ...Area V be utilized for field test purposes of manpower forecasting systems.

(re: Census of Voc. Ed. Training Agencies, Programs, and Enrollments under Program-Planning Coordination)

18. ...a survey of Bay Area vocational education and training programs be initiated on an annual basis for the purposes of evaluating the needs for vocational education training programs, and for purposes of providing information on training opportunities to students.

19. ...the survey of Bay Area vocational education and training programs be jointly funded through the State Departments of Education, Human Resources Development, and Vocational Rehabilitation - the study to be directed by a receptive Bay Area county office or the Regional Office of Education.

(re: Vocational Education Advisory Committees under Program-Planning Coordination)

20. ...every school and college district consider the practicality of having one advisory committee to provide the advisory committee service (Education Code 6257) for both the community college district and the school districts within the same geographical area.

(re: Planning Committees and Agencies under Program-Planning Coordination)

21. ...Vocational Education Planning Area V, Alameda M.A.P.C., and Contra Costa M.A.P.C. make a joint effort to identify planning agencies concerned with vocational education and/or manpower training in the Alameda-Contra Costa area.

(b) Education Code 6268.4 "Review quality standards of vocational instruction in the area."

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

1. ...there be an expansion of in-service training programs oriented to the use of instructional objectives as a curriculum development tool, as motivational and instructional procedure, as an orientation tool, as a means of

articulation between schools, colleges, and employers, and as a means of self-evaluation for instructors.

2. ...the in-service training effort be coordinated and funded at the State level to encourage the development of a wide range of Learning Activity Packages and to limit duplication of effort.

3. ...the State Department of Education establish a system for acquisition, maintenance, and dissemination of Learning Activity Packages, typical course, program, and unit guidelines, instructional objectives, facility descriptions, equipment lists, textbooks, training aids, etc.

4. ...H.R.D. expand its system for acquisition, maintenance, and dissemination of descriptive and analytical material on the skills, knowledge, and other characteristics required in each of the major occupations for which training is specifically available in the high schools and community colleges so as to provide a basis for program development.

(c) Education Code 6268.4 "Assure that information derived from follow-up studies is shared among educational institutions offering vocational education."

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

1. ...the follow-up study required on vocational education programs for Federal accounting purposes, VE-45, be changed so that:

   a. Data reported would reflect conditions one year following school leaving.
   b. Schools would be directed to use a standardized procedure for the collection of VE data, to be specified by the State Department of Education.
   c. A further breakdown of data reflecting students in work experience would be reported.

2. ...a study be made, by representatives of the school districts involved, of the feasibility of having the follow-up function for all of the schools in a particular region completed by one central agency. (State level educational evaluation funds should be made available on an annual basis for this purpose.)

3. ...follow-up studies be conducted with very specific objectives identified (specifying information desired, purpose of study, method of dissemination of results, responsibility for interpretation, etc.).

4. ...the instrument used for regional follow-up studies be sufficiently flexible to incorporate specific questions at the request of districts or schools.

5. ...for purposes of informing legislators and the general public, follow-up studies reflect as close to 100% coverage as possible.

6. ...follow-up studies include all school leavers, dropouts, as well as graduates.

7. ...information needed for the evaluation of specific school programs be collected by the use of more limited, more specific studies directed at the leavers of that specific program.

8. ...a system for dissemination of the follow-up study results be designed. This should include a general distribution of abstracts of studies, including an identification of the student population characteristics together with a summary of findings and recommendations. County school departments should be considered as one possible agency to carry out this function.

(d) Education Code 6268.4 "Encourage and assist local school districts to to offer effective pre-vocational programs."

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

1. ...school district guidance, general education, and vocational education personnel meet with County coordinators to examine models for the implementation of pre-vocational programs.

(e) Education Code 6268.4 "Insure that guidance and counseling information relative to vocational education and occupational experience is made available to all junior high school, high school, and community college students in the area, and insure that a substantial part of such guidance and counseling is provided by business and industry personnel."

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

(re: The Guidance System under Guidance & Counseling)

1. ...the offices of the County Superintendents of Schools in Alameda and in Contra Costa Counties acquire and make available models and curriculum which make it possible to integrate guidance into the curriculum.

2. ...each superintendent and principal in Area V study current models for guidance. (See CAREER GUIDANCE, A California Model for Career Development, K-Adult, provided by the State Department of Education.)

3. ...each school district do a self-evaluation of the guidance program and consider the use of an outside consultant in this procedure.

4. ...each school district strengthen the guidance program according to the recognized needs.

5. ...schools make maximum, but appropriate, utilization of group counseling and guidance, computer registration, peer counseling, and paraprofessional clerical help, as part of the guidance organization.

6. ...assessment programs be improved to make it possible to ascertain the achievement of any student at any time.

7. ...the state legislature appropriate funds for a feasibility study to ascertain the cost and practicability of adapting a computer-based guidance system to Area V.

(re: Preparation of Counselors under Guidance & Counseling)

8. ...the State legislators alter the certification requirements to require that every person certified to do vocational counseling have had a minimum of one year paid experience in some occupation outside the field of education, preferably below the professional level, and that supervised vocational counseling experience in H. R. D., the V. A., business, industry, or other agency, be considered of equal value to teaching or counseling experience in private or public secondary schools or colleges.

9. ...the practicability of developing an apprenticeship-type program in vocational counseling, which permits people with a background in business, industry or government to be articulated into education, be explored jointly by the Department of Human Resources Development and the Vocational Education section of the State Department of Education.

(f) Education Code 6268.4 "Assist in arranging, wherever appropriate, for high school juniors and seniors to take courses in community college vocational programs." (Articulation)

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

(re: Dual Attendance)

1. ...representatives of community colleges meet with high school personnel to devise compatible schedules, to investigate alternate means of transportation, and to consider ways of expanding the enrollment of high school students.

(g) Education Code 6268.4 "Assure that workable arrangements are established to grant advanced placement in vocational programs to outstanding high school graduates."

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

1. ...all vocational education and related curriculum be described in terms of instructional units with measurable behavioral objectives.

2. ...faculty committees be developed between college and high school districts for each vocational program offered within a community college district.

3. ...one vocational education advisory committee serve the high school districts and the surrounding community college district in the development of recommendations regarding articulation.

4. ...representatives of the State Department of Health confer with the boards (nursing, et.al.) regarding the need for articulation between programs.

5. ...a system of certification be devised which will convey to the receiving educational institution or the potential employer, an understanding of the level of competency and the specific skills acquired from a vocational or training program.

(h) Education Code 6268.4 "Assure that remedial programs are available, in high schools, in adult schools, and in community colleges, to allow young people who desire to enter technical programs (or who desire to enter apprenticeship), but who lack the academic qualifications, to have the opportunity to acquire those qualifications."

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

1. ...in educational plan be constructed for each student with a learning deficiency. Specifically described instructional units (not courses) aimed at remediating specified weaknesses should be prescribed.

2. ...schools and colleges consider the initiation of, or expansion of, tutorial and peer instruction programs for vocational education students.

3. ...schools and colleges review their diagnostic procedures for remediation.

(i) Education Code 6268.4 "Encourage the greater use of cooperative or work experience education programs."

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

1. ...the County coordinators of vocational education meet with representatives of the Industry-Education Council, work experience coordinators, work experience employers, and other appropriate agencies for purposes of establishing a procedure for improving the coordination of cooperative and work experience programs.

2. ...the State Department of Education print and make available to the County coordinators throughout California, a brochure describing the purposes and advantages of cooperative and work experience programs.

3. ...each County coordinator in cooperation with the local Industry-Education Council initiate a concerted and coordinated effort to inform the public, students, and potential employers of the benefits of cooperative and work experience to the students, to business, and to the County of these vocational education programs.

4. ...the legislators review the labor laws for discriminating and undesirable practices which restrict the opportunity for students to benefit from cooperative and work experience education.

5. ...the Department of Industrial Relations review the practices of the Workmen's Compensation Insurance carriers regarding insurance of employees under 18, as to whether the practices are justified.

6. ...the Department of Industrial Relations review a sampling of labor-management contracts to ascertain whether there is an undue restriction to the use of work experience students.

7. ...governmental manpower and social service agencies encourage the linkage of their work experience programs to the public schools and community colleges.

8. ...teacher training institutions recognize the need for well trained and experienced work experience coordinators.

(j) Education Code 6268.4 "Inform the public of the merits and strengths of vocational education to the end that vocational education will be moved toward a parity of esteem with all other curricular areas.

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

1. ...school districts, through the vocational coordinators, initiate an in-service training program for teachers and administrators to make them

aware of the nature and purpose of industrial arts, of vocational education, and of related programs.

2. ...the State Department of Education develop a series of learning activity packages for this purpose.

3. ...students be guided toward vocational education only for the values inherent in such programs for the student.

4. ...the Northern California Council of Administrators of Vocational Education and Practical Arts assume the responsibility for developing a coordinated effort in utilization of materials and media, to improve the image of vocational education.

5. ...each vocational education teacher study to the point of understanding, the career ladder appropriate to his or her area of instruction.

(Other) Education Code 6268.4 Other areas of consideration....

THE VOCATIONAL PLANNING COMMITTEE AREA V RECOMMENDS THAT:

(re: Finance)

1. ...the State develop and initiate a system for financing public education which provides for the financing of vocational education as a State responsibility.

2. ...the State consider the practicality of relating support of vocational education to achievement of students and placements in jobs rather than by the current basis of attendance in classrooms.

(re: Accounting System)

3. ...information be acquired by the county education offices on the present status of educational data processing systems in the two counties in Area V.

4. ...the State and the County educational and business officers in each County convene to establish a procedure and timetable for coordination of educational data processing systems.

(re: Justification Procedures)

5. ...the Vocational Education Section of the State Department of Education name a study committee to review funding procedures for the purpose of simplifying the paper work involved.

Area V

Vocational Education Planning

CONCLUSIONS AND RECOMMENDATIONS

TABLE OF CONTENTS

Page

I. Statement of Purpose 1

II. Procedure 2

III. Area V: Social-Economic Setting 4

IV. Conclusions and Recommendations 14

A. Curriculum - Programs 15

1. Program Planning

a. Enrollment 15
b. Minority Enrollment 15
c. Appropriateness of Enrollment 20
d. Initiation of Program 21
e. Program Title Ambiguity 23
f. Availability of Vocational Education Programs 24
g. Regional Occupational Centers and Programs 28
h. Pre-Vocational Programs 29
i. Adult Education 29

2. Program-Planning Coordination

a. Manpower Forecasting 30
b. Census of Vocational Education Training Agencies, Programs, and Enrollments 31
c. Vocational Education Advisory Committees 32
d. Planning Committees and Agencies 33

B. Related Services 34

1. Guidance and Counseling

a. The Guidance System 34
b. Preparation of Counselors 36

2. Follow-Up 37

3. Cooperative and Work Experience 39

4. Remedial Programs 42

C. Quality Standards 44

D. Articulation 47

  1. Advanced Placement 47

  2. Dual Attendance 48

E. Public Image 50

F. Business Services 54

  1. Finance 54

  2. Accounting System 55

  3. Justification Procedures 56

V. Appendix

A. Area V Planning Committee
Acknowledgements

B. State of California Education Code, Article 10.4,
Vocational Areas

C. Committee Work Plan for 1972-1973

D. Bibliography

I

STATEMENT OF PURPOSE

The purpose of the Area V Planning Committee is to develop an Area Master Plan for maximum coordination between vocational, technical, adult, and continuing education agencies within the area, together with recommendations for the implementation of such master plan in the area.

The Committee conceives the development of the Master Plan as being a continuing effort on its part, an effort which is to be communicated through a series of reports.

The Education Code (6268.4) describes the concern of legislators for several aspects of vocational education and related services. The Committee has accepted this directive as being of primary significance. It has centered its effort toward study and evaluation of systems and/or situations which can be utilized to improve vocational education in these areas of primary concern.

II

PROCEDURE

The Area Vocational Committee has identified specific problems as having high priority for consideration and delegated responsibility for study of these problems to subcommittees composed of members of the public and members of the Area Vocational Committee.

Specific Goals and Objectives were formulated by the Committee (see Appendix) and numerous activities were initiated for the purpose of attaining the objectives.

In moving toward its objectives, the Committee collected and reviewed data from numerous sources, developed and conducted educational surveys, and interviewed students, teachers, administrators, board members, and members of the general public.

Liaison named to serve the Committee by numerous agencies were utilized extensively in acquiring and reviewing data. Visits were made to selected public school, community college, private school and skill center programs.

Each Area V school district plan for vocational education for 1971-72 was reviewed. Data was acquired and tabulated according to program name and number so as to determine where, in the two-county area, each program was being offered and the planned enrollment.

From program enrollment reports submitted to the State office at the conclusion of the school year (Form VE-45), an analysis was made of the breadth of the vocational education opportunity provided to a student in any secondary school district in Area V. Similar interpretations were acquired from information provided by the Office of the Chancellor, California Community Colleges. Such breadth of opportunity was conceived of in the very broad educational clusters of (1) Agriculture, (2) Distributive Education, (3) Health Occupations, (4) Home Economics, (5) Office Occupations, (6) Technical Education, (7) Trade and Industry, and (8) Work Experience.

Reports submitted by the County offices provided information on total school, district, and Area V enrollments at each grade level, grades K through 14. From the total enrollments and the vocational enrollments, a ratio was derived which portrays the relationship between the size of the student enrollment (grades 9-12 and grades 13-14) and the size of the student enrollment in vocational education (9-12 and 13-14).

The Committee was particularly concerned that opportunity to attend a vocational program be equally available to all students regardless of race, ethnic origin, or geographic location of residence. Therefore, a ratio was also developed on the enrollment of minority students in vocational education. The material, so derived for each district, was submitted back to the district for review and correction.

From information made available through the Department of Human Resources Development, an evaluation was made as to the current employment and trends in employment in occupations related to vocational education programs and/or clusters of programs.

Data was not acquired on the number of students completing similar programs in private educational institutions.

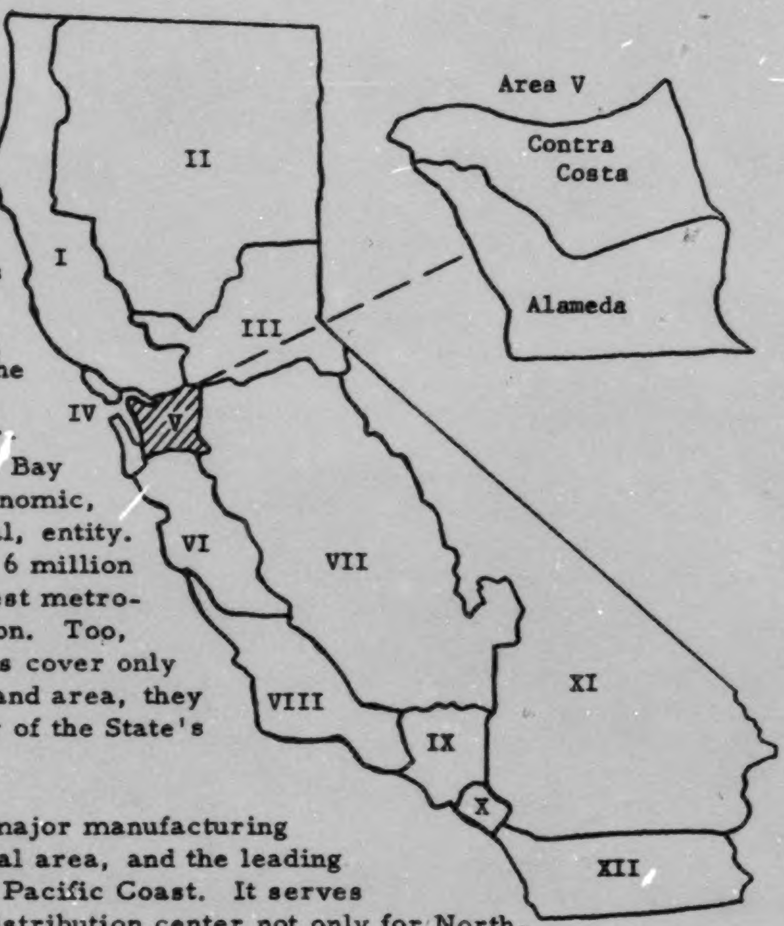
The information which was available on completions in specific occupational training programs offered by other governmental sponsored agencies tended to be very limited, but such data was sought out and reviewed.

Upon completion of the tabulation and preliminary interpretations, the data was again reviewed with representative teachers and administrators of vocational education and other educational administrators.

III

AREA V: SOCIAL-ECONOMIC SETTING

The Legislature enacted, and the Governor approved, legislation in the 1969 and 1970 sessions providing for area-wide planning for vocational education in California. Twelve planning areas evolved to include all the counties of the State. Five of these were selected as demonstration areas to test the feasibility of the total plan prior to extending the system throughout the State. CONTRA COSTA and ALAMEDA counties were designated as Vocational Education Planning AREA V, one of the pilot areas in the program.

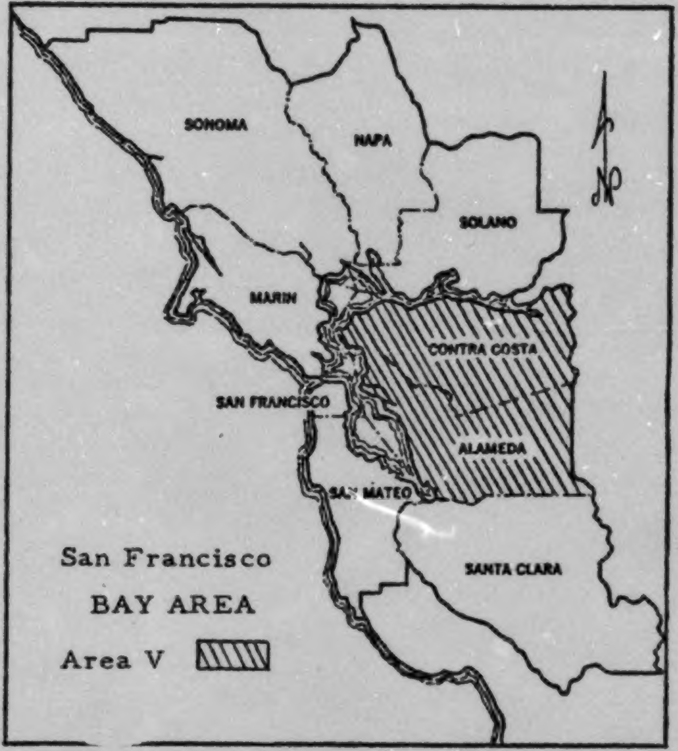


Of the two counties making up Vocational Education Planning Area V, Alameda County has approximately 731 sq. miles, and Contra Costa about 734 sq. miles.

Today these counties are looked upon as an important part of the San Francisco Bay Area -- the collective name given to the nine counties that border on the San Francisco Bay and form a physical, economic, and social, if not political, entity. With a population over 4.6 million it ranks as the fifth largest metropolitan region in the nation. Too, though these nine counties cover only 4% of California's total land area, they house nearly one-quarter of the State's residents.

"The Bay Area is a major manufacturing center, a rich agricultural area, and the leading foreign trade port on the Pacific Coast. It serves as the commercial and distribution center not only for Northern California, one of the richest and most diversified markets in the world, but for much of the West as well."[1] It is one of the continent's economic cores -- the financial and business capital of the West. It has served as the nucleus from which governmental, recreational, and culturally-oriented activities have radiated and grown throughout the region. As the home of numerous universities and colleges, the Bay Area is also a focal point of research, pure and applied.

The EAST BAY section, made up of the same counties as the Vocational Education Planning AREA V, is very much an integral part of the Bay Area. It must be considered with its relationship to the Bay Area continually in mind.



By the 1970 census, the Bay Area's population had grown to 4,630,283, an increase of 27.2% since 1960. During this same time Alameda County showed an increase of 18.2% (to 1,073,184) in population; and Contra Costa County an increase of 36.5% (to 558,389). (See charts on next page for additional figures.)

Researchers at the California State Dept. of Finance have projected an increase in population for the Bay Area of 841,000 during the current decade. Their long term projections portray an increase of 1.1 million in the 80's and 989,000 in the 90's, reaching a TOTAL of 7.5 million by the year 2000. These figures are based on established fluctuations in net migration and natural population increase. The illustration on page 7 shows that Area V is the central part of this proposed projected general growth.

The Manpower Area Planning Council of Alameda County predicts that by the end of 1972, the S.F.-Oakland Area (5 counties whose boundaries dominate the actual Bay) will have 15.3% of the State's total residents; the bulk of this growth being in Area V. They also noted that Alameda County has the largest population of ethnic and racial minorities of this 5-county Area. (See chart on next page.)

The Bay is the most distinctive geographical feature of the region, forming one of the world's outstanding harbors; it provides a sharp contrast to its densely populated shores.

---

[1] Bay Area Council, San Francisco Bay Area, Industrial Development Guide and Economic Review, San Francisco, January 1970.

TABLE 1
ENROLLMENT

COUNTIES in AREA V	POPULATION AS TO AGE GROUPS - 1970 Census -			PUBLIC SCHOOL ENROLLMENT TOTALS - 1970-71 School Year -	
	Ages 5-19	Ages 14-17	Ages 18-19	Total Students Grades 9-12	Total Students Grades 13-14
Alameda County	289,458	74,499	38,268	64,160	50,689
Contra Costa County	172,603	47,197	18,124	43,689	21,445
AREA V Total	463,061	121,696	56,392	107,849	72,134

TABLE 2
MINORITY ENROLLMENTS

COUNTIES in AREA V	Total Population (1970)	Total Minorities (1970)	Ratio of Minorities to Total Population	Ratio of All Minority Students to all 9-12 Students	Ratio of All Minority Students to all 13-14 Students
Alameda County	1,073,184	217,206	20.2	33.7	33.8
Contra Costa County	558,389	55,978	10.1	17.2	17.3
AREA V	1,631,573	273,184	16.7	27.0	28.9

There are numerous valleys throughout the East Bay. Portions of the eastern section of Alameda County lie in California's great Central Valley, the richest agricultural region in the world. Contra Costa County, to the north of Alameda County, is bounded on the west by San Francisco Bay. Yet the eastern third of this county lies in the San Joaquin Valley where again agriculture is an important segment of the economy.

The Bay Area's crops show a great measure of diversity -- among the more important are milk, beef, tomatoes, prunes, eggs, apples, pears, and cut flowers. The headquarters for two of the Nation's largest food processing & packaging firms are here. This industry is one of the largest in terms of employment for the Bay Area, and it draws heavily on all the locally grown products.

CITY-CENTERED REGION
CENTRAL GROWTH CORRIDORS
Area V

Illustration from the ABAG Regional Plan.

The EAST BAY (Area V) is the most heavily populated section of the Bay Area. It is linked to San Francisco and the Peninsula by three major trans-Bay bridges. In addition there are four other bridges, all an integral part of the area's highway system, that span the Bay and its tributaries. People commute to their employment in both directions across these bridges. The extent of the movement is illustrated by the fact that over 137,533,000 vehicles crossed these bridges in 1970...an incrase of 71.9% from 1960, and an increase of 2.9% just from 1969.

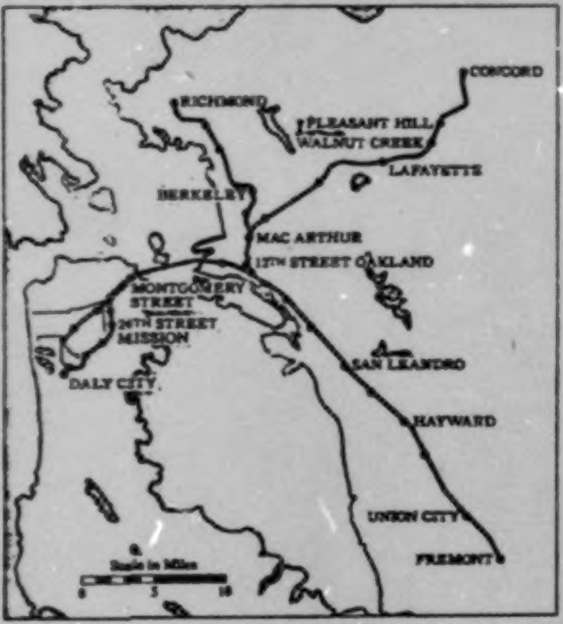
It is very difficult to overstate the importance of transportation in the development of the Bay region. The Bay Area is the western terminus for three transcontinental railroads, and in addition, three local rail systems link most of Northern California to the area. Trucks are the single most important means of moving goods. The Bay Area is the headquarters for the Nation's largest trucking firm, and its second largest railroad. It is served by over 100 common carrier truck lines. Within the Bay Area there are some 1400 miles of freeways and highways forming an integrated network linking all parts of the region. In conjunction with this there are over 14,700 miles of county and city-built roads.

The San Francisco Bay is one of the world's finest natural harbors. Within the East Bay alone there are five general-purpose ports. Supplementing the public ports are numerous private special-purpose facilities serving the needs of the various manufacturing installations; these are especially plentiful along the shores of Contra Costa County.

The Bay Area ranks as one of the Nation's leading air traffic hubs, both in passenger travel and air cargo. It has three major airport facilities as well as over 30 municipal and private airports. Eight of these are located in the East Bay.

The region's topography, the Bay and the surrounding hills, have played an important role in the pattern of urbanization and traffic flow. Industrial and commercial development has concentrated along the Bay. The automobile is the Area's primary means of transportation, but the limited availability of land, the cost of bridging the Bay, and tunneling the hills, and the deep local concern for environmental preservation have dictated that alternate means of transportation be developed and maintained. The East Bay counties (Area V), thus, took the lead in the Nation in the development of modern mass rapid transit facilities when they formed the Bay Area Rapid Transit (BART) district. It will operate high-speed trains over a 75-mile network linking Oakland and San Francisco with the East Bay suburbs as far north and east as Concord and as far south as Fremont (see map). The East Bay is also served by the Alameda-Contra Costa Transit District and the Greyhound Bus Lines. The A-CC Transit District is one of the few urban systems to record a year-to-year increase in patronage. There has also been steady gains recorded in trans-Bay operations.

BAY AREA RAPID TRANSIT

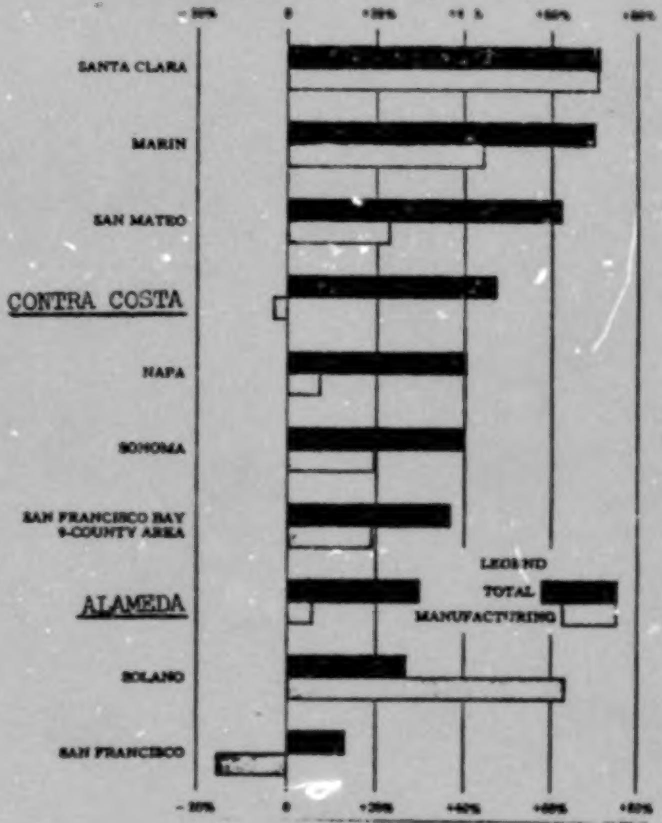


The key reason for the Bay Area's above average employment record is the diversity of the region's economy. Although individual counties or areas have tended to specialize, no single industry group dominates the nine-county Area's economy. There are four leading employment categories -- services (the largest employer), wholesale & retail trade, government, and manufacturing -- each accounting for about 1/5 of the Area's total employment.

The fact that manufacturing is not the leading employment category is also a factor in moderating the Area's employment trends. Services, trade, and government rank considerably ahead of it in terms of total employment. As can be seen by the table on the next page, Contra Costa and Alameda counties have shown a marked decrease in manufacturing employment. Rapid population growth in the various suburban areas, especially in AREA V, have resulted in the employment gains in the population-serving industries.

According to the Manpower Area Planning Council, economic activity in the EAST BAY will advance at a slightly faster pace in 1972. For attracting and locating industries, these two counties have good water & electrical power supplies. Too, ample natural gas and fuel oil is readily available from the five large oil refineries located in Contra Costa County. The assessed valuation of taxable property in Alameda and Contra Costa counties has also grown quickly in the last five years -- Alameda shows an increase of 50.1% and Contra Costa an increase of 30.3%... the major part of this increase is represented by industrial expansion.

PERCENT CHANGE IN TOTAL AND MANUFACTURING EMPLOYMENT
San Francisco Bay Area by County, 1960-1970



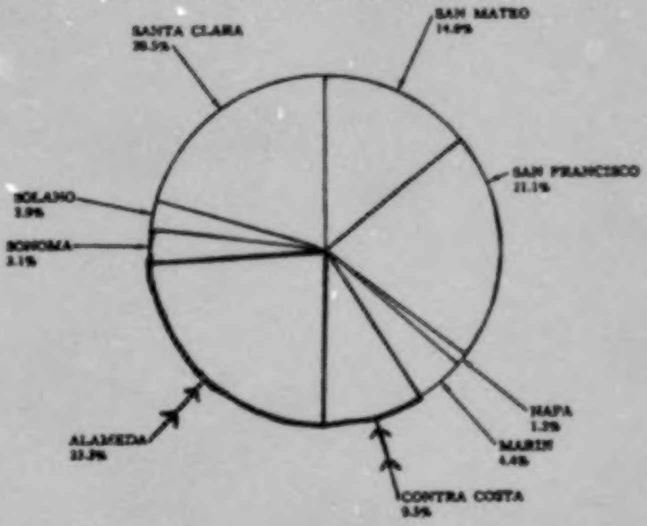
In Alameda County, the Port of Oakland is continuing its growth and expansion. A high level of construction activity is also taking place in other communities. Oakland remains the heart of the Bay Area's food processing, non-electrical machinery, and metals manufacturing activities. Cities in the southern portion of Alameda County have grown spectacularly as the area has been expanding as an industrial site. Alameda County is now the leading Bay Area county in retial and construction employment. It accounts for one-half of the 40,000 workers in the primary and fabricated metals industry. Another 24,000 in the printing, publishing and paper group workers are employed there. Other major employers are the petroleum & chemicals, ordnance, automobile assembly, lumber & furniture, and shipbuilding industries.

Once primarily agricultural, Contra Costa County has in recent years experienced tremendous growth in commerce and industry. Large residential developments have eclipsed agriculture in the western and central portions of the county. The north shore is characterized by such basic industries as refineries, chemical plants, steel mills, smelters, sugar processors, and paper manufacturers; and the urbanized areas of the cities of Pittsburg and Antioch. For many years the population density of this eastern part was centered in the northern industrialized section. However, the greatest expansion during the last decade has occurred in the area of and around Concord and Walnut Creek.

During this period, a change in the population age patterns has also occurred in Contra Costa County with a general lowering of the average age. The youth explosion has taken place in the new suburban areas of such communities as Concord and Walnut Creek. It is estimated that the 45-and-older group account for nearly 1/3 of the population in the Richmond area, yet this same group makes up less than 1/5 of the mid-county population. From census data the median age for the 2-county Area 5 is figured to be 27.6 years of age.

The expansion in both population and employment in the S. F. Bay Area is reflected in the sizeable gains recorded in the Area's total personal income. Total personal income in the Bay Area more than doubled in the 'sixties. The purchasing power of individuals and families in the Bay Area is aamong the highest in the Nation. In 1969 the East Bay had 32.8% of the total Bay Area income (see illustration below).

PERCENT DISTRIBUTION OF TOTAL PERSONAL INCOME
San Francisco Bay Area, by County—1969



Economic changes in the East Bay are influenced mainly by population growth and location of job opportunities. The central idea of the city-centered region is to accommodate future urban growth within the region in existing or new urban communities.

Employment data for the Bay Area counties in March 1972 shows Contra Costa County's share of the region's surveyed employment to be 7.1% while 12.2% of the Area's population resides theres. Research by the San Francisco Bay Area Council recently showed that San Francisco had 29.6% of the region's surveyed employment, although only 15% of the Area's population resides there. More and more people are residing outside the immediate area of their employment.

Today businesses dealing in services account for 33.8% of all Bay Area firms; retail firms comprise 26.9%. A characteristic of Bay Area employment is that workers in the professional, technical, clerical and skilled occupations are likely to be in short supply even though there may be an overall labor surplus. Such shortages which are usually filled by migration develop because the Area employs a greater than average number of such workers. A surplus of unskilled and semi-skilled workers, particularly women seeking industrial jobs, is also typical of the Area.

"Oakland has experienced the economic loss of vital manufacturing industries and an increase in the number of persons living in ghettos. In a population whose total number is relatively constant, the proportions of women, children, and ethnic minorities are steadily rising. These are the people most subject to unemployment, sub-employment and other problems of poverty.

According to survey data, an increaseing share of Oakland's unemployed residents are Negroes, Mexican-American, teenagers, and women, with many of the women and teenagers coming from homes where the head of the household is also unemployed. The marketable work experience and skills of these job seekers are not those in demand for most of the white-collar professional, managerial, clerical, and sales jobs that have provided most of the net job growth in Oakland and which offer substantial replacement demand."[2]

MANPOWER REVIEW: National occupational trends and employment trends in the next decade indicate a shift toward white-collar and service occupations. The white-collar occupations in 1947 numbered 20 million workers and increased to approximately 36 million by 1970. Projection indicates by 1980 they will increase to 48 million workers.

The blue-collar occupations will employ about 31 million in 1970 and increase to 33 million by 1980. The professional, technical, and service occupation groups are projected to show the greatest percentage increase. The service-producing industries will continue to grow and by 1980 the industry will double the number of workers now employed.

These trends, described in the Manpower Review, have already become evident in Contra Costa and Alameda Counties.

It is projected that by 1980 there will probably be as many professional and technical workers as blue-collar operatives. Yet there will at least as many jobs in the economy for which a high school education is sufficient. There will be more than 15 million operative jobs, but clerical occupations, with more than 17 million workers, will be larger than any other occupational group. Jobs in craft skills are increasingly well rewarded financially, reflecting a continuing need for highly skilled workers in the economy.

With the paid influx of population into the East Bay certain of the public school systems and parochial schools have become overcrowded. In general, however, the various districts' construction and expansion programs have kept abreast of the demand.

There are 46 colleges and universities located in the Bay Area (see map on next page). These represent principal attractions for many new residents and new industries. In terms of total enrollment, the two-year community

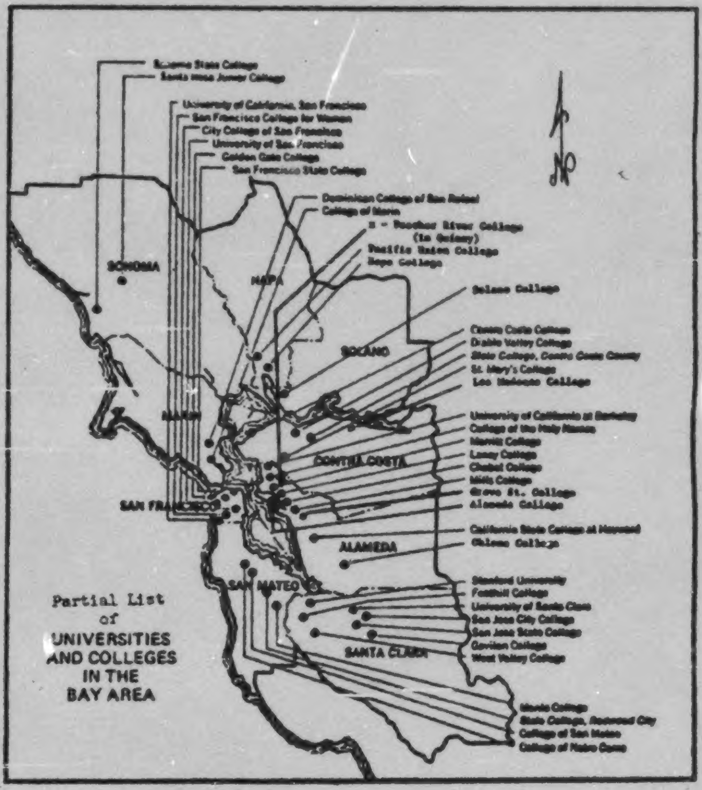
---

[2] Manpower Area Planning Council, Alameda County, "Economic Analysis," March 1972.

colleges constitute the largest segment, with 47.7% of the Bay Area's college students enrolled at 20 campuses.

The prominent universities & colleges and exceptional research facilities (private & governmental) have earned the San Francisco Bay Area the recognition as one of the Nation's leading research and development centers. With the prospect of research & development expenditures in the U.S. increasing substantially by 1980, the growth of this industry is expected to play a vital role in the Bay Area economy in the decade ahead.

A fine year-around climate combined with the beauty of the Bay Area's natural setting makes outdoor recreation exceptionally attractive to residents and visitors alike. Within the nine counties are a wide variety of recreational activities, such as hiking, swimming, fishing, boating, golf, picnic grounds, riding trails, bicycle paths, archery and shooting ranges, duck and pheasant hunting, and places to enjoy the natural beauty of the surroundings. The Pacific Ocean provides a magnificent shoreline, and the Bay and Delta are available for a wide variety of water sports.



Partial List of UNIVERSITIES AND COLLEGES IN THE BAY AREA

Sonoma State College
Santa Rosa Junior College
University of California, San Francisco
San Francisco College for Women
City College of San Francisco
University of San Francisco
Golden Gate College
San Francisco State College
Dominican College of San Rafael
College of Marin
* - Feather River College (in Quincy)
Pacific Union College
Napa College
Solano College
Contra Costa College
Diablo Valley College
State College, Contra Costa County
St. Mary's College
Los Medanos College
University of California at Berkeley
College of the Holy Names
Merritt College
Laney College
Chabot College
Mills College
Grove St. College
Alameda College
California State College at Hayward
Ohlone College
Stanford University
Foothill College
University of Santa Clara
San Jose City College
San Jose State College
Gavilan College
West Valley College
Menlo College
State College, Redwood City
College of San Mateo
College of Notre Dame
SONOMA
NAPA
SOLANO
MARIN
CONTRA COSTA
SAN FRANCISCO
ALAMEDA
SAN MATEO
SANTA CLARA
N

Recreation, tourism and spectator-type sport-oriented activities are playing an important role in the Bay Area and will continue to claim an ever-increasing portion of the economic base.

The Bay Area is widely known as one of the world's major cultural centers. Reflecting the diverse backgrounds of its people, a wide range of art, drama, music, and architecture flourish in the Area. Because of the proximity of the Bay counties to each other, residents are never far from the symphony, ballet, opera, legitimate theater, and art exhibitions.

In addition to the city and county libraries, there are some 200 special libraries in the Bay Area. The libraries of Stanford University and the UC at Berkeley are among the finest in the country. There are also many outstanding museums scattered throughout the Bay Area.

The Bay Area has fine hotels and motels, including good convention facilities, and fine restaurants. Many of these are expanding and many new ones are under construction, thus increasing the need for a variety of skilled workers in these and their related fields.

This description of Area V as an integral part of the Bay Area portrays the complexity of today's educational needs. The region is made up of people with varied racial, cultural, educational, economic, and social backgrounds, all of which influence their needs, but the most urgent need for most is that of earning a living. The whole educational system, including both public and private facilities, is oriented to the preparation of people to be productive members of society.

In spite of the fact that the Bay Area is a focal point for education and has many kinds of educational institutions with greatly diversified curriculums, industry continues to have a critical need for skilled personnel. Parodoxically, there is an equally critical unemployment problem. People need to become skilled in the occupations that are in demand.

The diversity of the people and of the Bay Area economy demands a consideration of all of these factors in the planning for vocational education to upgrade the working force and to contribute to the welfare of our society.

IV

CONCLUSIONS AND RECOMMENDATIONS

The first year of study by the Area Vocational Committee has resulted in a greater awareness of the problems inherent in providing a balanced program of education, specifically of vocational education and related services.

Although there are many wonderful things happening in vocational education in the two-county Area, the Committee has come to recognize certain problems which have limited the progress which could be attained.

Vocational education is based on the acquisition of reading and arithmetic, skills which ordinarily are learned at the elementary level. Unfortunately, a great number of students enter (or are put into) vocational programs poorly prepared in these basic communication and computational skills. Today the lack of such skills is a typical deterent to employment.

Although the Committee recognizes that vocational education cannot be separated from basic education, and that vocational education cannot thrive or expand without concurrent changes and improvement in other elements of the total curriculum, it has chosen to address itself in its initial efforts primarily to the improvement of programs and services more closely identified as vocational education.

The problem mentioned most often is that of financing the needed programs. A close second has to do with the process for developing new programs and for reviewing and evaluating older programs. The necessary data is seldom available and often inaccurate.

The third generalized problem, related to those above, is the lack of a system for coordination and cooperation.

Hopefully, the following observations, conclusions, and recommendations will serve to bring support to the efforts of the individuals and agencies involved in the improvement of vocational education in Area V.

A. CURRICULUM - PROGRAMS

1. Program Planning

a. Enrollment

The proportion of students in a high school who are enrolled in vocational education varies greatly from district to district. Part of the recorded difference (see Tables 3 & 4) is, no doubt, due to a looseness in definition rather than an accurate picture of the emphasis on vocational education. However, there is a real difference between the commitments of the districts to vocational education.

Whereas larger districts do tend to have more students enrolled in vocational education, some of the smaller school districts apparently have a higher ratio of their students enrolled in such programs.

It is estimated that 40% of Area V high school students are now enrolled in vocational education programs (including work experience), a significant increase during recent years. (see Table 6) (Data on Community Colleges is incomplete.)

However, a commitment to the goal of 80% enrollment of high school students preparing for employment in skilled or semi-professional occupations and an acceptance of the philosophy that all students completing high school be equipped with a "salable skill" is needed.

Recommendations

There is need for an expansion in enrollment in vocational education.

It is recommended that each school district establish the policy that every student leave school with a salable skill including, in addition to specific proficiencies, an awareness of the attitudes and personal qualities required for employment, and that the number of students in vocational programs approximate the number who will become employed at the skilled or para-professional level.

b. Minority Enrollment

Minority students tend to be enrolled in most, if not all, vocational programs. The number and proportion of such students

TABLE 3

DISTRICT SUMMARY

of Vocational Education

ENROLLMENT SURVEY

School Year 1970-71

Alameda County SCHOOL DISTRICTS	Total Students (9-12)	Total Minority Students (9-12)	Students in Voc. Ed. (9-12)	Minority Students in Voc. Ed.	Ratio of Voc. Ed. Students to all 9-12	Ratio of Minority Students to all Students in Voc. Ed.	Ratio of all Minority Students to all 9-12
Alameda Unified	3304	697	1109	84	33.5	9.1	20.6
Albany Unified	716	151	261	0	36.4	0	21.2
Amador Valley Jt. Union	3143	314	1058	106	33.6	10.0	10.1
Berkeley Unified	4217	2554	1355	990	32.1	63.6	57.9
Fremont Unified	8625	1169	4180	607	48.4	13.0	13.3
Hayward Unified	7742	2062	1755	713	22.6	40.6	25.7
Livermore Valley Unified	3190	225	1556	5	47.8	.3	7.1
Newark Unified	2209	413	810	0	36.6	0	18.8
New Haven Unified	1640	514	540	104	33.3	41.2	34.3
Oakland Unified	16613	11468	Combined 6615	Combined 4909	Combined 37.4	Combined 74.4	Combined 65.2
Emery Unified	170	0					
Piedmont Unified	896	56					
Castro Valley Unified	2978	245	1208	64	40.5	10.7	7.9
San Leandro Unified	3415	801	1645	410	48.1	19.2	15.7
San Lorenzo Unified	4982	723	2020	542	40.5	16.2	14.2
County Dept. of Education	320	213	333	262	104.0	77.7	67.2

TABLE 4

DISTRICT SUMMARY

of Vocational Education

ENROLLMENT SURVEY

School Year 1970-71

Contra Costa County SCHOOL DISTRICTS	Total Students (9-12)	Total Minority Students (9-12)	Students in Voc. Ed. (9-12)	Minority Students in Voc. Ed.	Ratio of Voc. Ed. Students to all 9-12	Ratio of Minority Students to all Students in Voc. Ed.	Ratio of all Minority Students to all 9-12
Acalanes Union	7500	124	2017	2	26.8	.1	2.1
Antioch Unified	2201	358	1367	196	62.1	13.8	16.7
John Swett Unified	645	111	372	56	57.6	13.1	18.3
Liberty Union High	1158	314	390	110	33.6	25.9	27.8
Martinez Unified	1561	168	1185	116	75.9	8.4	10.7
Mt. Diablo Unified	14247	903	4462	293	31.3	5.5	5.9
Pittsburg Unified	1821	1008	1239	706	68.0	45.8	57.2
Richmond Unified	11523	4411	6514	1913	56.5	26.6	34.9
San Ramon Vy. Unified	2771	74	570	0	20.5	0	2.7
County Dept. of Education	262	112	255	N/A	97.3	N/A	43.4

N/A - Not Available

TABLE 5

DISTRICT SUMMARY

of Vocational Education

ENROLLMENT SURVEY

-- October 1971 --

COMMUNITY COLLEGES	Total Students	Total Minority Students	Students in Voc. Ed.	Minority Students in Voc. Ed.	Ratio of Voc. Ed. Students to all Students	Ratio of Minority Students to all Students in Voc. Ed.	Ratio of all Minority Students to all Students
ALAMEDA COUNTY							
Fremont-Newark District							
Ohlone College	3912	490	2033	247	51.96	12.14	12.5
Peralta District							
College of Alameda	5249	2385	2510	1162	47.81	46.29	45.4
Feather River College	741	45	177	14	23.88	7.90	6.1
Grove Street College	1737	988	592	426	34.08	71.96	56.9
Laney College	11281	6602	1799	955	15.95	53.09	58.5
Merritt College	9041	4688	2873	1512	31.78	52.62	51.9
South County District							
Chabot College	12068	1913	N/A	N/A	--	--	15.9
CONTRA COSTA COUNTY							
Contra Costa District							
Contra Costa College	7388	2494	N/A	N/A	--	--	33.8
Diablo Valley College	14057	1209	6852	576	48.74	8.41	8.6
Los Medanos College	(not opened yet)		-	-	-	-	-

N/A - Not Available

TABLE 6

AREA V SUMMARY

of Vocational Education
ENROLLMENT SURVEY

COUNTIES	Total Students	Total Minority Students	Students in Voc. Ed.	Minority Students in Voc. Ed.	Ratio of Voc. Ed. Students to All Students	Ratio of V.E. Minority Students to All Students in Voc. Ed.	Ratio of All Minority Students to All Students
SECONDARY LEVEL							
Alameda County	64,160	21,605	24,445	8,796	38.1	36.0	33.7
Contra Costa County	43,427	7,471	18,116	3,392	41.7	18.7	17.2
AREA V	107,587	29,076	42,561	12,188	39.6	28.6	27.0
COMMUNITY COLLEGE LEVEL							
Alameda County	50,689	17,111	(9,984)	(4,316)	(20.0)	(43.2)	33.8
Contra Costa County	21,445	3,703	(6,852)	(576)	(32.0)	(8.4)	17.3
AREA V	72,134	20,814	(16,836)	(4,892)	(23.3)	(29.1)	28.9

( ) Based on incomplete data

4/72

varies from program to program, from school district to school district, and from county to county.

At both the secondary and community college levels, the overall ratio of minority students in vocational education favors the minority student but does not differ greatly from that of non-minority students. (see Table 6)

The study suggests that minorities have equal opportunity to enroll in vocational education but the possibility has not been rejected that vocational education continues to be used as a dumping ground for students not wanted in other programs (many in need of remedial programs in basic education) and such students are often from minority groups.

In spite of innovations such as peer teaching and tutoring programs, the need by many minority students for supplementary instruction or adaptations to the curriculum has not yet been met.

An expansion of such tutorial programs and the initiation of centers for individualized study oriented to students with special needs should be encouraged.

Recommendations

Minorities should have equal opportunity to progress in vocational education.

It is recommended that each school do a self-study to ascertain the kinds of supplemental student assistance programs most effective for minority and other students in that school.

Also, see recommendations under Remedial Programs, page 42.

c. Appropriateness of Enrollment

There is a much greater number of students listed as enrolled in certain clusters of programs than can reasonably be expected to obtain employment, either in the occupation for which trained or in a closely related occupation. Paradoxically, there are shortages of highly skilled people in some of these same occupations.

For example, in addition to enrollments under manpower training programs, there are about 2,000 students enrolled in about 12 auto mechanics, 5 auto services, and 8 body and fender programs in Area V, with 1,100 expected to complete per year.

It is estimated that the need for the entire State of California for new motor vehicle mechanics is less than 4,000 per year.

In addition to the auto mechanic enrollment figures, the number of people in the community college and secondary schools in the lower level clerical programs, the basic welding programs, practical nursing, nurse aides, and basic drafting programs, is also much greater than will be employed at those skill levels according to labor market projections.

Many individuals now registered in vocational programs will fail to become employed in the occupation or cluster of occupations for which the program is designed.

It is recognized that, rather than preparation for employment, some of these programs are:

(1) Preparing people for enrollment in advanced or highly skilled vocational programs, or

(2) Assisting individuals in the making of informed and meaningful occupational choices, or

(3) A combination of these objectives, or

(4) Preparing for jobs which will not be available.

Within the total two-county area, there is a need for a few of the present programs to be reorganized to provide entry into less known but related occupations, (e.g. clerical into shipping and receiving clerks, etc., auto mechanics into agricultural mechanics, etc.). Ongoing programs should be evaluated to ascertain whether programs are functioning in conformity with stated goals. Some "vocational" programs might better be described as an introduction to an occupation or to occupations.

Recommendations

Due partly to the system of tabulation, partly to a lack of coordination between districts, and partly because some programs are quite popular to students, the number of students tabulated as preparing for some occupations is greater than the need.

It is recommended that each school clearly define whether each class of instruction now described as preparing a person for entry into a job is, in fact designed for that purpose.

It is recommended that a program that enrolls students in a program for exploratory purposes be described as being an exploratory program.

It is recommended that coordinators of vocational programs review their most recent placement figures for all programs but more specifically for the following occupations: draftsman, auto mechanics, clerk typists, licensed vocational nurses and nurses aides, and entry level welders.

d. Initiation of Program

The procedure for initiating a program is typically begun at the school district level. Job market information is sought from the Department of Human Resources Development or the Department of Labor, whereas job market and student surveys tend to be conducted by school localized district personnel. Information is sought from the County Offices of Education, the Regional Office, other school districts, and advisory committees regarding curriculum and survey data.

Much of this effort is repetitive from school district to school district. It takes time of professional and other personnel to perform specialized activities which usually are not a part of their major interest, activity, or competency.

The seeking of job market information, and student surveys might better be performed by specialists based in the County Education Offices. Requests for information on specific occupations could be directed to the Department of Human Resources Development. Requests for information on enrollments in specific occupations or clusters could be directed to the Regional Office. The General Advisory Committee and the school district staff could consider the information provided to it by the County Office, the Regional Office, and the Department of Human Resources Development.

There is a trend toward the analysis of a program in terms of Learning Activities, some of which are common to many occupations, (e.g. the ability to add figures, the ability to drive an automobile, or the ability to read blue prints).

Clusters of learning activities have been developed and described for many occupations but the time lag between development and accessibility to teachers is great. It is not practical for each teacher to make an exhaustive search for such materials.

A central agency should coordinate the development of model curriculum and the dissemination of information on learning activity packages.

Recommendations

When considered on an area-wide basis, the present procedure for initiating new programs is inefficient, results in duplication of program and effort, and neglects needed programs.

It is recommended that the County Office serve as a coordinating agency (with proper funding) to acquire job market surveys (through H. R. D.), student interest surveys (with the school districts), estimates of current enrollments (from Regional Office), etc., to serve as a base for initiating a program.

It is recommended that the Vocational Education Advisory Committee and vocational education staff review these materials for purposes of recommending or rejecting the proposed program.

e. Program Title Ambiguity

In acquiring data or enrollments, it was noted that programs with the same name and number might differ significantly in curriculum content, in the manner of instruction of the content, in the level of achievement expected of students and in the transferability of the achievement to other educational institutions, to apprenticeship programs, or to employment.

The present system of reporting vocational enrollments is time consuming, expensive, and highly subject to error.

A system should be devised and utilized which describes common units of instruction and provides an idex of standards of achievement for each vocational program. (See Initiation of Program, Articulation, Standards of Quality.)

Recommendations

It is recommended that a system be devised by the State Department of Education which makes it possible for teachers, administrators, students, and representatives from business, industry and government to communicate about a program, or a part of a program, with full confidence that the participants are communicating about the same units of learning.

It is recommended that the County Office of Education serve as a liaison to the local school districts in the implementation of the system.

f. Availability of Vocational Education Programs

The opportunity to enroll in a vocational program and the opportunity to select from among several vocational programs varies greatly from school district to school district and from college to college.

Although one might expect larger school districts to provide a greater selection of vocational curriculum than smaller districts, this expectation is not entirely fulfilled. Some of the small districts, through R.O.C.-P. agreements or other agreements or resources, offer as broad a curriculum as their larger neighbors.

Each school district provides one or more programs in home economics and in office occupations.

Almost all districts offer work experience of some sort. About half offer vocational work experience, two-thirds offer general work experience, and one-half of the secondary districts offer exploratory work experience programs. Exploratory work experience is not offered at the community college.

The less frequently represented clusters are the health and technical classifications.

Only three high school districts offer programs in each of the eight broad classifications tabulated. (see Tables 7 & 8)

The community colleges also tend to offer office occupation programs; but, in contrast to the secondary level, home economics is much less prominent whereas the trade and industry curriculums are quite commonly offered. (see Table 9)

A few school districts have a large number of programs concentrated within a few of the broad classifications.

It is evident that a very real difference does exist between school districts and between colleges in terms of the opportunity to select from among several different vocational education programs.

TABLE 7

-- ALAMEDA COUNTY --

SCHOOL DISTRICT OFFERINGS
According to Broad Curriculum Clusters
IN VOCATIONAL EDUCATION

SCHOOL DISTRICTS	Agriculture	Distributive Education	Health Occupations	Home Economics	Office Occupations	Technical Education	Trade & Industry Occupations	Work Experience	Voc. Ed. Students (1970-71)	Total Students (9-12)	**Ratio
Alameda Unified		X		X	X		X	X	1109	3304	33.5
Albany Unified				X	X			X	261	716	36.4
Amador Valley Jt. Union	X	X		X	X			X	1058	3143	33.6
Berkeley Unified			X	X	X		X	X	1355	4217	32.1
Fremont Unified	X	X	X	X	X		X	X	4180	8625	48.4
Hayward Unified			X	X	X	X	X	X	1755	7742	22.6
Livermore Valley Unified	X		X	X	X	X	X	X	1556	3190	48.7
Newark Unified	X			X	X		X	X	810	2209	36.6
New Haven Unified		X		X	X			X			
*Oakland Unified	X	X		X	X		X	X	Combined 6615	17679	37.4
*Emery Unified	X	X		X	X		X	X			
*Piedmont Unified	X	X		X	X		X	X			
+Castro Valley Unified	X	X	X	X	X	X	X	X	1208	2978	40.5
+San Leandro Unified	X	X	X	X	X	X	X	X	1645	3415	48.1
+San Lorenzo Unified	X	X	X	X	X	X	X	X	2020	4982	40.5
County Dept. of Education				X	X		X	X	333	320	104.0

3/72

*Includes programs offered through Emery, Oakland, Piedmont R.O.C. - R.O.P.
+Includes programs offered through Castro Valley, San Leandro, San Lorenzo R.O.C.

**Ratio of Voc. Ed. students to all 9-12 students in District

TABLE 8

-- CONTRA COSTA COUNTY --

SCHOOL DISTRICT OFFERINGS

According to Broad Curriculum Clusters

IN VOCATIONAL EDUCATION

SCHOOL DISTRICTS	Agriculture	Distributive Education	Health Occupations	Home Economics	Office Occupations	Technical Education	Trade & Industry Occupations	Work Experience	Voc. Ed. Students (1970-71)	Total Students (9-12)	*Ratio
Antioch Unified		X	X	X	X	X	X	X	1367	2201	62.1
Acalanes Union High	X	X		X	X			X	2017	7500	26.8
John Swett Unified		X		X	X		X	X	372	645	57.6
Liberty Union High	X			X	X			X	390	1158	33.6
Martinez Unified		X		X	X			X	1185	1561	75.9
Mt. Diablo Unified	X	X	X	X	X	X	X	X	4461	14247	31.3
Pittsburg Unified		X	X	X	X	X	X	X	1239	1821	68.0
Richmond Unified		X		X	X		X	X	6514	11523	56.5
San Ramon Valley Union		X		X	X	X		X	570	2771	20.5
County Dept. of Education					X		X	X	255	262	97.3

*Ratio of Voc. Ed. students to all 9-12 students in District

TABLE 9

-- ALAMEDA & CONTRA COSTA COUNTIES --

COMMUNITY COLLEGE OFFERINGS
According to Broad Curriculum Clusters
IN VOCATIONAL EDUCATION

COMMUNITY COLLEGES --	Agriculture	Distributive Education	Health Occupations	Home Economics	Office Occupations	Technical Education	Trade & Industry Occupations	Other	Voc. Ed. Students Oct. 1971	Total Students	*Ratio
ALAMEDA COUNTY											
Fremont-Newark District											
Ohlone College		X		X	X	X	X		2033	3912	51.96
Peralta District											
College of Alameda			X		X		X	X	2510	5249	47.81
Feather River College	X				X	X			177	741	23.88
Grove Street College				X	X		X		592	1737	34.08
Laney College			X				X		1799	11281	15.95
Merritt College			X		X	X	X	X	2873	9041	31.78
South County District											
Chabot College	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12068	N/A
CONTRA COSTA COUNTY											
Contra Costa District											
Contra Costa College	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7388	N/A
Diablo Valley College	X	X	X	X	X	X	X		6852	14057	48.74
Los Medanos College	(not	opened	yet)						(not	opened	yet)

3/72

N/A = Not Available

*Ratio of Voc. Ed. students to all students at the college

Although there have been attempts by the County Offices, the Regional Office, local coordinators of vocational education, and others, the results of their effort at coordination are as yet quite limited. Vocational programs having the same name and identification number do occur within short distances of one another.

Some can be considered as unnecessary duplication.

Recommendations

There is a large selection of vocational programs in the public schools and community colleges in Area V. Unfortunately, for the student in a particular high school the choice tends to be limited in scope. Class schedule, transportation, or lack of an agreement with other districts prevent the student from participating in neighboring programs.

While recognizing that resources are limited, it must nevertheless be recommended that an expansion occur in the kinds of programs available to each student, particularly in the direction of service occupations, distribution and marketing, skilled agricultural occupations, the construction-manufacturing occupations, and selected health occupations.

It is recommended that each district consider additional alternatives, such as R.O.C.'s, R.O.P.'s, transferable classrooms or trailers, residence schools, provisions for boarding students, etc., to provide greater variety of opportunities.

g. Regional Occupational Centers and Programs

The majority of the secondary school districts in Alameda County have entered into inter-district agreements for Regional Occupational Centers and/or Programs. The agreements provide a greater selection of programs to students, than could previously be offered.

There are two Regional Occupational Programs in Contra Costa County, no Regional Occupational Centers. There are certain financial advantages, in terms of added A.D.A. for R.O.C.'P.'s.

The R.O.C.-P.'s tend to have good facilities, good equipment, and a definite focus for vocational education. They can provide programs which have not previously been provided, or, in many cases, cannot be offered with a single school district population.

On the other hand, there are numerous models now in existence for providing for vocational education to students on a multiple district basis. Something other than R.O.C.-P.'s might be more appropriate in Contra Costa and/or Alameda Counties; e.g., residence vocational schools, area vocational schools, or a comprehensive high school accepting out-of-district students.

It is evident that a major part of the needs for vocational education in Area V is going unmet. However, Alameda County districts have in large part already committed themselves toward the R.O.C. model.

The non-R.O.C.-P. districts in both counties must seek feasible alternatives.

Recommendation

The need for vocational education in Area V is only partially being met with the present programs. There is little or no indication that the needed increase in programs and enrollments will be provided by school districts acting entirely independently of one another.

It is recommended that the County Superintendent (in each County) meet with the other superintendents within the county to consider a countywide feasibility study for multi-district utilization of vocational education to meet the need for all school districts to provide a broader offering of vocational programs.

h. Pre-Vocational Programs

Prevocational education has been initiated in one form or another by all districts in Area V. However, a systematic and articulated program has not been developed.

Recommendation

It is recommended that school districts meet with county coordinators to investigate procedures for integrating prevocational education into the curriculum.

i. Adult Education

Although the adult schools and community colleges do include older students in their enrollments, the emphasis in vocational education provided by public education is toward the youthful preparatory student rather than the adult.

It is no longer reasonable to identify education as a terminal endeavor or to assume that a person ever completes his or her preparation for an occupation. One does prepare to enter and progress in an occupation, but continued progress and flexibility is dependent on continued learning.

A greater recognition must be given to preparatory and upgrading programs oriented to people who have already or should have entered the labor market. The large sums of money spent by the Department of Labor and H. R. D. are an illustration of the need by these agencies to pick up where public education has failed. Public education must accept the responsibility for these students.

Recommendations

There is a growing need for adult education to provide an opportunity to people in the labor force to prepare in or to upgrade themselves in an occupation.

It is recommended that each district consider a policy to make it possible for any person in the district to continue their education through adult programs in basic education, secondary or community courses and programs.

It is recommended that all college vocational facilities be available for evening classes.

It is recommended that a policy be stated jointly by the secondary districts and the community college districts as to the area of responsibility for offering specific kinds of adult education programs.

2. Program-Planning Coordination

a. Manpower Forecasting

As indicated in an earlier progress report (November 29, 1971), the school and college districts lack predictive information on Bay Area and Area V industry and the trends in occupations within these industries.

The recent economic recession accentuates the need for such information.

Although the Department of Labor and the Department of Human Resources Development nominally have the responsibility for providing this information, the fact is that the states that acquire such information do so because the need is recognized and funds are provided. The priorities in California have been elsewhere.

A system is needed that would permit H. R. D. to provide annually in a relatively inexpensive manner a forecast of occupational needs and opportunities in the Alameda-Contra Costa Area, specifically in the form of Industry Occupational Matrices.

From a limited study by the Committee, it appears that a system is needed which relates changes in basic and supportive industries to forecasts in manpower needs in specific occupations.

Because Area V includes a wide variety of business and industry and it is both urban and rural, it would be appropriate to use Area V as a pilot in field-testing this or similar systems.

Recommendations

There are several manpower needs forecasting systems in development throughout California.

It is recommended that a system be encouraged which, because of cost and reliability factors, shows a possibility of being continued under the Department of Human Resources Development sponsorship. (See General Research Corporation's "Quantitative Assessment of Present and Future Occupational Needs and Opportunities.")

It is recommended that Area V be utilized for field test purposes of manpower forecasting systems.

b. Census of Vocational Education Training Agencies, Programs and Enrollments

Several of the planning or supervisory agencies have compiled descriptive material on educational institutions which exist within the Alameda-Contra Costa (or larger) area. Such listings have been made by the Bureau of School Approvals, the Division of Rehabilitation, the Office of the Chancellor for Community Colleges, certain private publishers, individual schools, groups of administrators of programs, and the Area V Committee. However, in spite of this effort, there is no directory readily available which describes the programs in both the private and public schools and which gives an adequate description of the programs and the costs involved for an individual to make a reasonable choice from available alternatives.

The chief complaint of users of data showing enrollment was that insofar as information exists, or is obtainable, it cannot be retrieved from a single source.

The mass of data is so large, even when limited to the Bay Area, and the desirability of accessing it immediately by numerous addresses, such as location, cost and duration, is so great that computerization provides the only answer in the longer term. The use of telephone to intermediaries who could access computer terminals, terminals in guidance centers where printouts could be obtained, microfiche readers, and other means of information delivery should all be explored.

However, the total project is so extensive that the initial result should be a loose leaf directory to be published and evaluated.

In order to avoid duplication of effort, data about enrollments should be collected at the same time that directory information is gathered.

Such a directory should be produced by one agency in cooperation with other Bay Area user agencies, and might best be funded on a cooperating basis.

Recommendations

For purposes of evaluating the needs for vocational education training programs, and for purposes of providing information on training opportunities to students, it is recommended that a survey of Bay Area vocational education and training programs be initiated on an annual basis.

It is further recommended that the survey of Bay Area vocational education training programs be jointly funded through the State Departments of Education, Human Resources Development and Vocational Rehabilitation, the study to be directed by a receptive Bay Area county office or the Regional Office of Education.

c. Vocational Education Advisory Committees

According to the Education Code (6257):

> "The governing board of each school district participating in a vocational education program shall appoint a vocational education advisory committee to develop recommendations on the program and to provide liaison between the district and potential employers. . . ."

In meeting the requirement, the South County Joint Community College District joined with school districts within the college district boundaries to form one vocational advisory committee to serve all of the schools and the college.

There are certain easily recognized advantages to this procedure.

(1) A representative from the Department of H.R.D. (or business or industry, etc.) need meet with only one committee rather than several.

(2) Many of the areas of concern to one district are common to other districts.

(3) It provides an opportunity to acquire a broader picture of the educational needs and the programs designed to meet the needs.

(4) It can provide for a greater degree of overall planning and less duplication.

(5) It can result in more effective articulation between the colleges and the high schools.

(6) It can result in cooperative arrangements between school districts and between school districts and the college district in the development of newer study programs.

(7) It can result in the development of policies on vocational education which have a greater degree of universality than might occur with individual districts.

(8) It can result in a greater transfer of materials and information between districts.

(9) There is less expenditure of staff time in acquiring a committee, writing reports, etc.

Each of the school districts and community colleges in Area V should investigate the desirability of joining together with other districts for the purpose of naming and utilizing one Vocational Education Advisory Committee.

Recommendation

Each of the districts is required to have an advisory committee to develop recommendations on the programs and to provide liaison between the district and potential employers.

It is recommended that every school and college district consider the practicality of having one advisory committee to serve this function for both the community college district and the school districts within the same geographical area.

d. Planning Committees and Agencies

Numerous committees and agencies have been established for the purpose of planning vocational education. The procedure, rather than being an aid to the overall process, has to a degree become self-defeating. The number of planning agencies is such that it has become essentially impossible to maintain an awareness of the planning of each of these. In addition to the problem due to the number of planning agencies which have evolved, the agencies have been established from a variety of viewpoints. These agencies may be oriented toward particular occupational clusters; they may be oriented toward particular levels of training; or they may be occupied with educational training in rather specific geographical areas. There is as great a need for a communication system between these planning agencies as there is for the need for most of the agencies themselves.

Recommendation

It is recommended that Vocational Education Planning Area V, Alameda M. A. P. C., and Contra Costa M. A. P. C. make a joint effort to identify planning agencies concerned with vocational education and/or manpower training in the Alameda-Contra Costa area.

B. RELATED SERVICES

1. Guidance and Counseling

a. The Guidance System

A well-organized guidance program requires an integrated, planned approach from kindergarten to adult education. This involves incorporating occupational and career information into the content of regular classes, such as reading, English, social studies and science at all levels. It involves the development of units or courses at junior and senior high school levels specifically designed to familiarize students with their own abilities, traits, interests, values, etc., and to relate these to the education, industrial, and social options open to them. It involves group and individual counseling opportunities where students will be helped to work through educational and career plans that are compatible with their resources.

From contact with students, counselors, and teachers, it appears that there are very few guidance programs organized in Area V on a district or school-wide basis to the extent suggested above.

The guidance emphasis which exists is heavily weighted toward the secondary and college levels. There seems to be relatively little recognition that guidance is developmental in nature, oriented to the beginner in kindergarten and needed throughout adult life.

Apparently, the trend toward specialization which has led to the development of professionals in the guidance and counseling areas has in turn resulted in an undue separation of roles between guidance personnel and teachers. The net result for many schools is that, instead of the guidance program integrated as a central part of the curriculum and of the school, the school has a few guidance personnel operating on the fringes of the academic community.

Guidance must become a central part of the curriculum and the school.

The counseling-guidance associations have been among the more prominent proponents for the improvement of guidance services. The Committee in its study found similar weaknesses in Area V schools as described for the State by counseling-guidance associations. (See pp. 9-12 in the November 1971 Area V Report.) It would concur with many of the recommendations made by the guidance associations, but questions whether the resources will be allocated as recommended. Although the Committee does encourage a general expansion of guidance services, it believes that much of this function can be and should be integrated into the curriculum.

The Committee has also given consideration to the practicality of computer-based registration, scheduling, accounting, evaluation, and diagnosis of student instructional needs, student records, and vocational information systems. In a heavily populated area such as Alameda and Contra Costa Counties, it would appear that such systems could be provided in an economical manner so as to free guidance personnel to do the kinds of things for which they are most qualified.

Recommendations

If students are to make realistic vocational decisions during their adolescent years, they must acquire an understanding of the world of work, of themselves, and of the process of preparing for employment.

It is recommended that the offices of the County Superintendents of Schools in Alameda and in Contra Costa Counties acquire and make available models and curriculum which make it possible to integrate guidance into the curriculum.

It is recommended that each superintendent and principal in Area V study current models for guidance. (See CAREER GUIDANCE, A California Model for Career Development, K-Adult, provided by the State Department of Education.)

It is recommended that each school district do a self-evaluation of the guidance program and consider the use of an outside consultant in this procedure.

It is recommended that each school district strengthen the guidance program according to the recognized needs.

It is recommended that schools make maximum, but appropriate, utilization of group counseling and guidance, computer registration, peer counseling, and para-professional clerical help, as part of the guidance organization.

It is recommended that assessment programs be improved to make it possible to ascertain the achievement of any student at any time.

It is recommended that the state legislature appropriate funds for a feasibility study to ascertain the cost and practicability of adapting a computer-based guidance system to Area V.

b. Preparation of Counselors

The Committee has been impressed with the degree of criticism expressed regarding the preparation of counselors.

Counselor training programs exist in most of the graduate schools in California. The students in these programs generally acquire a sound background in counseling theory, an understanding of learning theory and learning disabilities, and experience in intelligence, interest, and aptitude testing.

Unfortunately, over a period of several years, the very great majority of the counselor graduates who have become employed in public schools and colleges have had little "gut level" experience with jobs outside of the educational system. As a result, the schools have become staffed with individuals who are well oriented to academia and who can assist students in academic pursuits. However, there now exists an acute shortage of people who can skillfully provide vocational counseling to students at all economic levels.

Furthermore, there is little evidence that the graduate schools are now oriented to this need or that they will soon provide enough qualified vocational counselors.

The most critical need in the preparation of guidance personnel is that of providing experience outside of the field of education. This experience has two aspects. First, to require that every guidance person (including counselors) have acquired paid experience in occupations outside of the field of education. Secondly, supervised vocational counseling experience should be sought in non-educational agencies.

Recommendations

The present counselor preparation programs fail to provide the breadth of experience in the world of work required for effective vocational counseling.

Therefore, it is recommended that the State legislators alter the certification requirements to require that every person certified to do vocational counseling have had a minimum of one year paid experience in some occupation outside the field of education, preferably below the professional level, and that supervised vocational counseling experience in H. R. D., the V. A., business, industry, or other agency, be considered of equal value to teaching or counseling experience in private or public secondary schools or colleges.

It is recommended that the practicability of developing an apprenticeship-type program in vocational counseling which permits people with a background in business, industry, or government to be articulated into education, be explored jointly by the Department of Human Resources Development and the Vocational Education Section of the State Department of Education.

2. Follow-Up

Almost all public schools in Area V carry out some type of follow-up study of graduates. These studies vary from a simple attempt to determine where graduates are located in September following graduation to very sophisticated longitudinal studies that follow graduates and all school leavers for five to six years after leaving school.

A review of examples of follow-up studies in Area V, and discussions with educational planners who have conducted studies, or used the results of same, produced these observations:

a. Policy decisions and curriculum changes have resulted from information collected by follow-up studies. It is generally agreed that the present thrust toward career education, and vocational education in particular, has come about because of the findings of studies. However, these changes have evolved slowly and only on the basis of follow-up study results reinforced many times over.

b. There is little evidence to show that instructional methodology in basic education courses (the three R's) have changed as a result of studies even though many studies have indicated a need for certain changes.

c. There are limitations as to the value of longitudinal follow-up studies. Results do not lend themselves to the type of evaluation needed to make specific program changes.

d. In some areas it has been feasible for one central agency to carry out the follow-up function for a number of districts. The Santa Cruz County School Department has had such a system in operation since 1968, serving all of the schools of the county. This system utilizes a sophisticated data processing system.

e. There is no system in use which assures that the results of studies are shared among districts and as a result very little opportunity exists for one district to profit from findings of another.

f. The designers and users of follow-up studies agree that care needs to be taken if attempts are made to generalize or transfer information from the results of one district's findings to another. However, this is possible if the student populations or specific groups can be equated.

g. One of the suggestions often made concerning follow-up studies is that studies be conducted using a random sampling process. The users of results of studies, however, report that with random sampling:

(1) The subgroup would likely be of too small a size to give valid data if results are to be analyzed for the subgroups of the populations.

(2) Results are difficult to explain. Many persons do not understand sampling techniques or the validity of same. Because of this, the results of random surveys are often open to interpretation - the results do not reflect "my" group, etc.

h. A follow-up report (Form VE-45) is required each year by the State Department of Education, Bureau of Vocational Education. Vocational coordinators, who generally are responsible for the collection of the data required and the submission of the report, are in general agreement that the data reported are unsatisfactory since the report reflects data collected too soon after students leave programs. (See Table 10) Students trained in a particular skill may be in a temporary job until one in his field is available.

i. The data reported on Form VE-45 reports do not reflect uniform methods of data collection from district to district, and therefore to some extent lack validity when used as summary data for vocational education in the State.

Recommendations

The present system of follow-ups is inefficient and at times misrepresents actuality. The acquired information seldom is given optimum distribution.

The Federal government requires an annual "follow-up" on vocational students; a more comprehensive report is required for overall school planning. Separate follow-up reports are sometimes needed for specific programs.

It is recommended that the follow-up study required on vocational education programs for Federal accounting purposes, VE-45, be changed so that:

TABLE 10

FOLLOW-UP OF STUDENTS COMPLETING PREPARATORY VOCATIONAL EDUCATION PROGRAMS
For 1969-70

	Total No. Completing Program During Last Year & Left School	Number Status Unknown	Number Not Presently Available for Placement			No. Employed and/or Available Total of Cols. 3-4-5-6 Subtracted from Col. 2	Number in Labor Force					No. Who Left Program with Marketable Skills Prior to Completion
							Employed Full-Time in					
			Entered Armed Forces	Continued Full-Time School	Not in Labor Force for Other Reasons		Occupation for Which Trained	Related Occupation	Unrelated Occupation	Employed Part-Time	No. Unemployed (Seeking Work)	
1	2	3	4	5	6	7	8	9	10	11	12	13
01 - AGRICULTURE:												
Alameda	128	46	4	40	0	38	8	3	13	9	6	1
Contra Costa ..	196	115	3	17	44	17	5	3	2	5	4	6
TOTAL	324	161	7	57	44	55	13	6	15	14	10	7
04 - DISTRIB. ED.:												
Alameda	327	74	10	75	16	152	39	25	12	26	30	27
Contra Costa ..	328	70	8	92	34	124	45	14	20	20	18	0
TOTAL	655	144	18	167	50	276	84	39	32	46	48	27
07 - HEALTH:												
Alameda	278	17	1	38	5	217	187	8	5	10	7	0
Contra Costa ..	91	4	0	1	14	72	71	0	1	0	0	0
TOTAL	369	21	1	39	19	289	258	8	6	10	7	0
09 - HOME ECON.:												
Alameda	168	20	5	79	11	53	22	13	5	5	8	0
Contra Costa ..	49	31	1	9	2	6	4	0	1	1	0	0
TOTAL	217	51	6	88	13	59	26	13	6	6	8	0
14 - OFFICE:												
Alameda	3338	845	23	900	197	1373	493	307	157	193	230	130
Contra Costa ..	2090	769	16	387	226	692	326	83	85	89	114	8
TOTAL	5428	1614	39	1287	423	2065	819	390	242	282	344	138

TABLE 10
(continued)

FOLLOW-UP OF STUDENTS COMPLETING PREPARATORY VOCATIONAL EDUCATION PROGRAMS
For 1969-70

	Total No. Completing Program During Last Year & Left School	Number Status Unknown	Number Not Presently Available for Placement			No. Employed and/or Available Total of Cols. 3-4-5-6 Subtracted from Col. 2	Number in Labor Force				No. Unemployed (Seeking Work)	No. Who Left Program with Marketable Skills Prior to Completion
			Entered Armed Forces	Continued Full-Time School	Not in Labor Force for Other Reasons		Employed Full-Time in Occupation for Which Trained	Employed Full-Time in Related Occupation	Employed Full-Time in Unrelated Occupation	Employed Part-Time		
	2	3	4	5	6	7	8	9	10	11	12	13
16 - TECHNICAL:												
Alameda	8	0	1	2	0	5	1	0	2	0	2	0
Contra Costa ..	42	11	0	15	2	14	6	2	1	5	0	0
TOTAL	50	11	1	17	2	19	7	2	3	5	2	0
17 - TRADE & INDUS:												
Alameda	1120	211	72	230	42	565	134	144	181	33	69	28
Contra Costa ..	391	184	17	91	11	88	42	15	17	8	12	2
TOTAL	1511	395	89	321	53	653	176	159	198	41	81	30
RECAP:												
01 - Agriculture	324	161	7	57	44	55	13	6	15	14	10	7
04 - Distrib. Ed.	655	144	18	167	50	276	84	39	32	46	48	27
07 - Health	369	21	1	39	19	289	258	8	6	10	7	0
09 - Home Econ. ..	217	51	6	88	13	59	26	13	6	6	8	0
14 - Office	5428	1614	39	1287	423	2065	819	390	242	282	344	138
16 - Technical ...	50	11	1	17	2	19	7	2	3	5	2	0
17 - Trade & Ind.	1511	395	89	321	53	653	176	159	198	41	81	30

Table derived by Alameda County Dept. of Education & Area V Vocational Education Planning Committee from Form V.E. 45 submitted to Regional Office by each school district.

a. Data reported would reflect conditions one year following school leaving.

b. Schools would be directed to use a standardized procedure for the collection of VE data, to be specified by the State Department of Education.

c. A further breakdown of data reflecting students in work experience would be reported.

It is recommended that a study be made, by representatives of the school districts involved, of the feasibility of having the follow-up function for all of the schools in a particular region completed by one central agency. (State level educational evaluation funds should be made available on an annual basis for this purpose.)

It is recommended that follow-up studies be conducted with very specific objectives identified (specifying information desired, purpose of study, method of dissemination of results, responsibility for interpretation, etc.).

It is recommended that the instrument used for regional follow-up studies be sufficiently flexible to incorporate specific questions at the request of districts or schools.

It is recommended that, for purposes of informing legislators and the general public, follow-up studies reflect as close to 100% coverage as possible.

It is recommended that follow-up studies include all school leavers, dropouts, as well as graduates.

It is recommended that information needed for the evaluation of specific school programs be collected by the use of more limited, more specific studies directed at the leavers of that specific program.

It is recommended that a system for dissemination of the follow-up study results be designed. This should include a general distribution of abstracts of studies, including an identification of the student population characteristics together with a summary of findings and recommendations. County school departments should be considered as one possible agency to carry out this function.

3. Cooperative and Work Experience

The effort of the Committee in regard to work experience education has been largely directed toward the efforts of the public schools and community colleges in establishing these opportunities in business, government, and industry.

However, it is recognized that training programs such as apprenticeships have been initiated outside the public education system and that other programs, N. A. B. S., for example, may provide work experience and training without participation of public education agencies.

As the result of the expansion or initiation of enrollments, work experience programs under public education, the Department of Labor, and other governmental or private agencies, there has occurred a degree of competition for the available job slots.

Fortunately, some school districts are blessed with business or industry particularly adaptable to work experience programs. On the other hand, some of the rural areas have almost no opportunity to place students.

Because the natural employment areas are often in other school districts and because some districts have more than one work experience agent, companies have been visited by two or more people in the same day apparently for the same purpose - to get jobs for students.

The lack of coordination within the education community is shared by government, industry, and business. In spite of the efforts of Industry-Education Councils to bring the education and business communities together, governmental, business, and industrial programs are initiated with little or no contact with educational or other agencies involved in similar programs.

It, therefore, becomes essential that each county vocational coordinator investigate, with work experience coordinators (or agents), representatives of H. R. D. and the Industry-Education Council, means of coordinating the acquisition of job slots and the placement of students.

Because there continues to be a lack of public awareness of cooperative and work experience programs, it is appropriate that the State Department of Education make available descriptive brochures which describe Exploratory, General, and Vocational Work Experience purposes and procedures. Each county education office could initiate, in cooperation with the local Industry-Education Council, a concerted effort to inform the general public, students, and potential employers of the benefits to the students, to business and industry, and to the community of these vocational education programs.

In addition to the lack of coordination and understanding of these programs, there are several characteristics of the labor market which restrict the opportunity of students to profit from work experience.

The younger high school students cannot be employed because of labor laws, Workmen's Compensation Insurance carriers are being discriminatory in issuance of insurance on employees under 18, labor management contracts restrict the use of work experience students, and employers hire off the street (or from other youth experience recruiters) without considering the school or college work experience programs and the possibility of helping the employee acquire high school or college credit and instruction.

The need for work experience is so well recognized that numerous agencies are initiating programs. The need for skilled coordinators is less well recognized, yet there exists a definite shortage of prepared and experienced people for these positions.

Recommendations

Though the value of work experience is well recognized, there are many problems in implementing the program.

It is recommended that the county coordinators of vocational education meet with representatives of the Industry-Education Council, work experience coordinators, work experience employers, and other appropriate agencies for purposes of establishing a procedure for improving the coordination of cooperative and work experience programs.

It is recommended that the State Department of Education print and make available to the county coordinators throughout California, a brochure describing the purposes and advantages of cooperative and work experience programs.

It is recommended that each county coordinator, in cooperation with the local Industry-Education Council, initiate a concerted and coordinated effort to inform the public, students, and potential employers of the benefits of cooperative and work experience to the students, to business, and to the county of these vocational education programs.

It is recommended that the legislators review the labor laws for for discriminating and undesirable practices which restrict the opportunity for students to benefit from cooperative and work experience education.

It is recommended that the Department of Industrial Relations review the practices of the Workmen's Compensation Insurance carriers regarding insurance of employees under 18, as to whether the practices are justified.

It is recommended that the Department of Industrial Relations review a sampling of labor management contracts to ascertain whether there is an undue restriction to the use of work experience students.

It is recommended that governmental manpower and social service agencies encourage the linkage of their work experience programs to the public schools and community colleges.

It is recommended that teacher training institutions recognize the need for well-trained and experienced work experience coordinators.

4. Remedial Programs

An evaluation of the remedial services provided throughout Area V has proven to be a very difficult task, a task which in large part has been deferred because of the greater accessibility to study other aspects of vocational education.

It is doubtful whether any high school or community college in Area V would acknowledge the lack of a remedial program and all evidence does point to the existence of some form of remedial service open to vocational students.

On the other hand, it is evident that many students reach the community college with very serious weaknesses in their basic education and continue to require remedial instruction.

From very limited observation it appears that there is a great need at the elementary, secondary, and community college levels for remedial services. Much of this assistance must be provided on a one-to-one or small group basis. Also, the professional staff, to do the job at each of these levels, is largely lacking, and there is a lack of diagnostic personnel to pinpoint the kinds of weaknesses that exist and to prescribe instruction. As the classroom instruction passes these students by, the students get to feel that nobody cares and often such students drop out. The Department of Labor and O. E. O. sponsored training programs are largely made up of such students.

On the other hand, some schools are using innovative techniques to assist students. Peer teaching and computer-assisted instruction are a few of the procedures which show promise.

However, from the limited study in this area, this Committee believes the basic problem remains - that the student who gets behind, stays behind.

Recommendations

Many students with learning deficiencies are yet to be adequately served.

1. It is recommended that an educational plan be constructed for each student with a learning deficiency. Specifically, described instructional units (not courses), aimed at remediating specified weaknesses, should be prescribed.

2. It is recommended that schools and colleges consider the initiation of, or expansion of, tutorial and peer instruction programs for vocational education students.

3. It is recommended that schools and colleges review their diagnostic procedures for remediation.

C. QUALITY STANDARDS

In order to qualify for funds under Part A and B of Public Law 90-576, the schools must certify that their vocational education programs meet the requirements of the California State Plan for vocational education. These requirements are quite extensive in scope, covering everything from program planning and facilities to job placement and follow-up.

To permit needed flexibility at the state and local level, the standards written in the State Plan as an agreement between the State Board of Education and the United States Office of Education are quite universal.

However, numerous agencies have published materials which are, in essence, standards. For example, CAREER GUIDANCE sets standards for guidance programs and provides measurable objectives for evaluation of the service. SOCIAL SERVICES - A SUGGESTED ASSOCIATE DEGREE CURRICULUM, and the CALIFORNIA SOCIETY OF PARK & RECREATION EDUCATORS ARTICULATION COMMITTEE REPORT, among many others, describes units (or standards) which can be used to evaluate quality or content of programs.

State, National, and regional associations set standards for schools, colleges, and programs. The schools and colleges also produce district plans, catalogues, etc., which include standards.

Although many agencies propose standards, ultimately, the setting of standards and the evaluation of a vocational program in terms of the standards is primarily a local instructional activity.

Therefore, the Committee has directed its effort in the study of quality to the standards actually applied to the vocational programs in Area V.

From its study, the Committee finds that the school districts and community colleges each have stated objectives for programs and/or courses, but instructional objectives included in district plans are too general to use in the behavior method of evaluation.

Partly as a result of legislative action, there is now an emphasis in the schools and colleges on the need for accountability. Whereas, instructors may have followed written, or unwritten, standards and/or guidelines in the past, it is now expected that formalized and measurable objectives and activities will be written for each program. The development of these written standards is in process in most, if not all, of the districts. (See Tables 11 & 12) The process is expensive, with much duplication of effort and with few, if any, districts having completed the task.

In part, the incentive for developing measurable standards has filtered from the federal level through Sacramento to the district level. When

TABLE 11

ARTICULATION DATA

from

HIGH SCHOOL DISTRICTS

	0-10	11-20	21-30	31-40	41-50	51-100	over 100	Districts Replying	Districts Not Replying
1. Approximately how many vocational and/or technical courses do you offer?	6	6	9	2	1	-	-	24	2
2. Approximately what % of these courses have complete, printed, identifiable, and measurable instructional objectives equal to or better than the attached samples?	0-20%	21-40%	41-60%	61-80%	81-100%				
	8	4	4	2	6			24	2
3. Approximately what % of your high school students are also enrolled in vocational and/or technical courses at the community college level?	0-2%	3-5%	5-10%	above 10%					
	20	2	2	-				24	2
4. Approximately what % of your graduates who attend a community college are granted credit in vocational and/or technical programs for work completed at the high school level?	0-20%	21-40%	41-60%	61-80%	81-100%				
	21	1	-	1	-			23	3
5. Approximately what % of your graduates who attend a community college are granted a waiver of requirements in vocational and/or technical programs for work completed at the high school level?	0-20%	21-40%	41-60%	61-80%	81-100%				
	20	1	-	-	-			21	5

4/72

TABLE 12

ARTICULATION DATA
from
COMMUNITY COLLEGE DISTRICTS

								Districts Replying	Districts Not Replying
1. Approximately how many vocational and/or technical courses do you offer?	0-10	11-20	21-31	31-40	41-50	51-100	Over 100		
	-	-	-	1	-	-	3	4	0
2. Approximately what % of these courses have complete, printed, identifiable, and measurable instructional objectives equal to or better than the attached samples?	0-20%	21-40%	41-60%	61-80%	81-100%				
	1	-	2	-	1			4	0
3. Approximately what % of your vocational and/or technical courses have high school students enrolled?	0-20%	21-40%	41-60%	61-80%	81-100%				
	4	-	-	-	-			4	0
4. Approximately what % of your vocational registered students are also registered in a high school vocational program?	0-2%	3-5%	5-10%	above 10%					
	3	1	-	-				4	0
5. In terms of level of difficulty of material, approximately what % of your vocational and/or technical courses are appropriate for enrollment of high school students?	0-20%	21-40%	41-60%	61-80%	81-100%				
	1	2	-	1	-			4	0
6. Approximately what % of your vocational and/or technical courses grant credit to college students for work completed while the student was still at the high school level? (Credit by examination or similar.)	0-20%	21-40%	41-60%	61-80%	81-100%				
	1	-	-	1	1			3	1
7. Approximately what % of your vocational and/or technical courses grant a waiver of requirement to college students who have completed the course work at the high school level?	0-20%	21-40%	41-60%	61-80%	81-100%				
	4	-	-	-	-			4	0

4/72

interpreted as a state and/or federal requirement, some resentment and resistance has developed by the local recipients of the directives.

The State Department and the County Offices provide to teachers and administrators, independently or with other agencies, workshops and consultation on the establishment of standards as expressed through instructional objectives. Whereas, some of the workshops have stressed the writing of instructional goals and objectives, at least one series of workshops has placed the emphasis on the development of Learning Activity Packages. In the first example, the teachers and administrators in training have shown some inclination to consider the workshop as an aid to achieving federal and state requirements. In contrast, the series of workshops on Learning Activity Packages has provided an opportunity to achieve local goals (the development of more effective learning situations for the teachers' own classrooms) and at the same time achieve the written objectives "required by Sacramento."

The writing of goals and objectives, or of curriculum, or of Learning Activity Packages, requires the application of time by many professional educators. It is an expensive process which requires resources not ordinarily available within the district to the extent required (often the costs of curriculum development are unknown and/or underestimated). On the other hand, many vocational programs are essentially repeated throughout the state. For example, there are 62 auto mechanic programs in the California community colleges alone plus many more in the high schools, R.O.C.'s, and skill centers.

The present State requirements and the duplication of efforts are a burden and a deterrent to administrators in deciding whether to establish a vocational education program. A systematization in the development, acquisition, and dissemination of curriculum units must occur if all schools and colleges are to acquire the specificity of objectives which are applicable for instructional and evaluation purposes.

It would seem appropriate that the Department of Education in Sacramento acquire and make available typical program, course, and instructional unit guidelines, specifying instruction objectives, facilities, equipment, textbooks, training aids, etc. Although each school would find it desirable to alter the guidelines to meet local needs, each school would save the effort of starting from scratch to "reinvent the wheel."

Related to the need for instructional objectives is the need for job analysis. In general, teachers seldom use job specifications in building curriculum, nor are they always up to date with their own occupational competency. An agency must be funded and charged to ascertain the "universal" skills, knowledge, and attitude requirements in each common occupation taught at the secondary or community college level.

Although most schools have not as yet completed the measurable instructional objectives for all programs, a large number of these materials are now available. However, the written instructional objectives which are available, either on or off campus, tend to have limited utilization; and there is duplication in the development of new materials.

In addition to this problem, there is little utilization of written goals and objectives as motivational tools in vocational classrooms, as orientation to the occupation in the exploratory programs, as a communicative device with teachers of related instruction, or as a tool for articulation between schools, colleges, and employers.

A major weakness at all levels appears to be the lack of coordination of effort in the development of vocational education.

Recommendations

The districts are all involved in a conscious attempt to improve their vocational programs. The overriding need seems to be for coordination of effort.

It is recommended that there be an expansion of in-service training programs oriented to the use of instructional objectives as a curriculum development tool, as motivational and instructional procedure, as an orientation tool, as a means of articulation between schools, colleges, and employers, and as a means of self-evaluation for instructors.

It is recommended that the in-service training effort be coordinated and funded at the State level to encourage the development of a wide range of Learning Activity Packages and to limit duplication of effort.

It is recommended that the State Department of Education establish a system for acquisition, maintenance, and dissemination of Learning Activity Packages, typical course, program, and unit guidelines, instructional objectives, facility descriptions, equipment lists, textbooks, training aids, etc.

It is recommended that H. R. D. expand its system for acquisition, maintenance, and dissemination of descriptive and analytical material on the skills, knowledge, and other characteristics required in each of the major occupations for which training is specifically available in the high schools and community colleges so as to provide a basis for program development.

D. ARTICULATION

1. Advanced Placement

As described in Quality Standards, the schools and colleges are heavily involved in the development of measurable instructional objectives for all vocational programs. The lack of clearly defined objectives (see Tables 11 & 12), and a means whereby the competency level could be described, have been major constraints in the articulation of many vocational programs.

Those programs which are readily identified as having similar and measurable instructional content to programs in other schools tend to grant credit or a waiver of the requirement for work completed. On the other hand, programs which have the same title are often found to have no instructional units in common and little or no transferability.

In effect, many students duplicate at the community college level much of the work which was done at the high school level.

There is in part, an historical basis for this situation. In earlier years, development of programs occurred with little or no coordination from college to college, from high school to high school, or between high schools and colleges. Fortunately, significant changes have occurred which are causing an acceleration of activity in the direction of coordination of programs and the development of measurable objectives and transferable instructional units.

However, the unmet need continues for a form of certification by which each sending institution can communicate to other educational agencies and potential employers, the achievement of the student.

In addition to the factors within the schools which result in repetition of instruction, there are in other agencies needless barriers to the upward migration of individuals from one occupation to another. The multiplicity of accrediting agencies or licensing agencies, such as a nurse's board for licensed vocational nurses and the board for licensing of registered nurses, tend to limit the articulation between programs and result in an excessive duplication of study, a duplication of instruction and a duplication of facilities.

Recommendations

In spite of the present effort to articulate programs between schools and colleges, students tend to repeat courses or units of instruction at the college level which supposedly were completed at an earlier level.

It is recommended that all vocational education and related curriculum be described in terms of instructional units with measurable behavioral objectives.

It is recommended that faculty committees be developed between college and high school districts for each vocational program offered within a community college district.

It is recommended that one vocational education advisory committee serve the high school districts and the surrounding community college district in the development of recommendations regarding articulation.

It is recommended that representatives of the State Department of Health confer with the boards (nursing, et al) regarding the need for articulation between programs.

It is recommended that a system of certification be devised which will convey to the receiving educational institution or the potential employer, an understanding of the level of competency and the specific skills acquired from a vocational or training program.

2. Dual Attendance

The opportunity for a high school student to attend a community college was expanded under the provision of the Veysey Bill, but the actual participation by vocational students has, until recently, been negligible. (see Tables 11 & 12) However, from both the local and the state level, the community colleges and high schools are being encouraged to participate more fully.

The lag in participation is not solely due to a lack of motivation. There are many barriers to dual attendance between high schools and colleges. For example, the colleges tend to have the lecture session in the morning and the laboratory or shop session in the afternoon, and the program may meet only two or three days per week. At the high school, the student tends to be scheduled every day, both mornings and afternoons. He would not normally have a schedule which fits that of the desired college program.

The need to schedule travel time and the lack of dependable transportation has further limited the dual enrollment.

A student who survives the other problems may then find that the desired program has been filled by the college-level students and for him the program is still not available.

On the other hand, for many students the college program provides the only opportunity to become involved in an interesting and valued route to employment at the skilled or semi-professional level. The number of students surmounting the barriers is increasing.

More flexible scheduling on the part of the high schools and the colleges (for example, late afternoon programs at the college), the acquisition of alternative transportation (car pools?), and the expansion of needed college programs will all be necessary.

It would appear that the naming of one vocational advisory committee for both the college and feeder high schools might be an initial step in coordinating the schools and colleges for this purpose.

Recommendations

If dual attendance provided for under the Veysey Bill is to reach an optimum level of effectiveness, schedules must be made compatible, transportation must be available, programs must be expanded where practical, and it must be economically feasible to offer additional sections.

It is recommended that representatives of community colleges meet with high school personnel to devise compatible schedules, to investigate alternate means of transportation, and to consider ways of expanding the enrollment of high school students.

E. PUBLIC IMAGE

There is a great lack of knowledge in the minds of the various publics regarding the character of vocational education and the very existence of vocational education. However, before expanding on the lack of knowledge of the publics, it must be recognized that there are many individuals, particularly those closely associated with good vocational education programs, that are very aware of the nature and value of vocational education.

Apparently, there are some who believe that all education is essentially vocational in nature and many of these individuals are rather disappointed when in fact the education which has been acquired does relatively little to assure that the person becomes employed. From the point of view of industry, there are many who feel that the educational system is established to prepare individuals for jobs, but that to a great degree the educational system is failing to teach the very rudiments which are necessary for acquiring and holding a position. In fact, some representatives of industry reject the philosophy of vocational education; i. e., that vocational education should prepare people for specific occupations or clusters of occupations, but instead demand assurance that every student will have acquired a sound basic education including the rudiments of reading, writing and arithmetic.

On the other hand, there are those who believe that each of the schools have programs for specific occupations; and there tends to be great confusion between such terms as "vocational education," "industrial arts," "manual training," etc.

Unfortunately, the image of vocational education suffers from the comments of those that have an unrealistic view of the nature of vocational education, and it suffers equally from those that have a realistic view of a small segment of inadequate vocational education.

In the first case, vocational education is often perceived as providing only a very narrow cluster of skills which provide little flexibility for a person to move from one job to another or to progress as technology changes. It may be seen as including only one broad grouping of occupations, such as home economics, or agriculture, or "shop." The confusion with industrial arts or prevocational types of programs is also common. Under the assumption that each woodshop has as its purpose the preparation of students for entry into carpentry or cabinetmaking occupations as qualified employees, parents and students become disappointed and disillusioned when the graduate must seek other employment.

Programs entitled "vocational education" have been used as a dumping ground for unruly students and for slow learners. Often such programs have been lacking in equipment, supplies, or a skillful and motivated teacher. Even with a qualified teacher, the program and staff lack the encouragement and support which is needed.

Even the educational community is largely ignorant of the purpose, methodology, and value of the effect of vocational education programs. In the recent past and probably even today, the "good" students were encouraged to take college preparatory programs; they were discouraged from "wasting" their abilities or preparing for immediate employment through vocational education. Vocational education is often viewed as a dead end street which closes the door forever for entry into college.

In many of our vocational programs the students see little relationship between vocational education, basic education, or the general education courses. By students, by teachers and by parents, many of these programs are believed to be dirty and noisy and, at such time as they are perceived to lead to employment, it is perceived that they lead to dirty, noisy, low-paying, low-level, low-status occupations.

Under this handicap, that of having so broad a segment of the population with negative feelings about the field of vocational education, and about the results of vocational education, one wonders whether it is worth the effort to improve the image. Indeed, as one considers the situation in other states or throughout the country, it becomes readily apparent that many are, in effect, disowning the term "vocational education" for as yet "unsoiled" names, such as occupational education or career education. At times, the only change which occurs in such situations is a change of name -- the philosophy, the program and the practice remains the same. On the other hand, a change of name can be a part of an effort to improve the image of education directed toward the preparation of people for the world of work, and at the same time an attempt to improve the effectiveness of programs is also initiated.

As touched on very lightly above, the image of vocational education is not universally bad. Just as there are numerous people who reject vocational education, there are many others who wait anxiously for an opportunity to enter a vocational education program. Typically, such people have become aware, primarily through direct contact with the schools or with people who have progressed through a program, of the tremendous value and change in a person's status in life which can occur from participation in such programs. However, if we are to depend upon contact with programs or with graduates to improve the image, one must assure that the programs and the graduates are of the quality which merits a favorable image for vocational education.

It is the responsibility of each coordinator of vocational education in a school district to provide an in-service training program for teachers and administrators to make them aware of the nature and purpose of industrial arts, of vocational education, and of related programs. The use of follow-up studies which provide graphic evidence of the value of vocational education for graduates of the programs must be made available to all members of the educational community.

While it must be recognized that vocational education may have a particular value for some students who have been delinquent, who have educational handicaps, or who are from racial or cultural minorities, vocational programs should not be used as dumping grounds for such students.

No student should be placed in a vocational education program because he is a rejectee from another program. It must be recognized by counselors, students, and parents alike, that the student who lacks the basic educational skills (communicative and computative) for other programs, also lacks preparation to enter vocational education programs.

In addition to the effort which must be made within the school to improve the quality of vocational education and to make the educational community aware of this quality, a supplementary effort must be made outside of the school. It is recognized that much effort is already exerted in this direction. For example, the office of the Chancellor, California Community Colleges, has recently produced a directory of programs in California. The Bay Area community colleges, the Alameda and Contra Costa County offices of education, and individual school districts have produced or acquired pamphlets, booklets, A. V. programs and reports describing opportunities for vocational education and training programs in the area. At the State level, the Department of Education has produced a multi-media presentation, "The Bridge," which is available to school assemblies, conferences, etc. The Department of Education has also produced other audio-visual presentations available to television stations and educators to describe the value of vocational education. The Alameda County Schools Office, in cooperation with the Alameda County Industry-Education Council and the Alameda County Fair Board, has initiated the Vocational Education Olympics as the successful way of informing the public about the value of vocational education. The Alameda and Contra Costa County Schools Offices each have a copy of Operation UP, an audio-visual presentation available to school districts.

Although many additional programs can and should be made available on a statewide basis, it would appear that the most critical need in terms of improving the image of vocational education is that of assuring that every vocational program does in fact prepare the student for employment in a stated occupation or cluster of occupations. Secondly, it would appear appropriate that the vocational coordinators in the Bay Area counties cooperatively develop a system for maximum use by Bay Area television and radio stations of the State and locally-developed media presentations. Thirdly, it should be made clear that, whereas funding for vocational education in the public schools and community colleges is limited to programs below the bachelor degree level, the graduate of a vocational program has much in common with the engineer, the lawyer, the minister, the physician, and the teacher. All have prepared for their vocation through a vocationally oriented educational program. It is the responsibility of each teacher in vocational education to present such relationships and the fact that vocational programs are one path to managerial or professional level employment.

Recommendations

It is recommended that school districts, through the vocational coordinators, initiate an inservice training program for teachers and administrators to make them aware of the nature and purpose of industrial arts, of vocational education, and of related programs.

It is recommended that the State Department of Education develop a series of learning activity packages for this purpose.

It is recommended that students be guided toward vocational education only for the values inherent in such programs for the student.

It is recommended that the Northern California Council of Administrators of Vocational Education and Practical Arts assume the responsibility for developing a coordinated effort in utilization of materials and media, to improve the image of vocational education.

It is recommended that each vocational education teacher study to the point of understanding, the career ladder appropriate to his or her area of instruction.

F. BUSINESS SERVICES

1. Finance

If the school district expends its tax money wisely, its students will probably become productive and responsible citizens who pay taxes, possibly in the same school district, but even more probably to the State.

On the other hand, if the school district does poorly through a lack of funds or otherwise, there is a lesser probability that the students will become responsible citizens and taxpayers, either to the district or to the State. The probability of added social service or correctional costs to the State is increased.

Data from the Contra Costa Department of Social Services, from the Youth Authority, and from Deuel Vocational Institute, indicate that the probability of keeping a person off welfare or out of a penitentiary is great if the person can be placed in a job for which he has been trained.

Sooner or later the State Legislators and Governor must realize that the added cost of quality vocational education for a few years of high school or community college is only a fraction of the total cost of welfare, or incarceration, or later crash programs in manpower training.

Education, including vocational education, is a State responsibility which is largely delegated to local school districts, to community college districts, and to state colleges and universities.

In contrast to the four-year colleges and universities, a dominant part of the income of the public schools and community colleges in California is derived from local property taxes although a significant percent of the income does come from the State and Federal level.

The localization of education is presumed to provide a flexibility to the school or community college board which will permit the initiation of that curriculum and services most appropriate to the local community.

How can the board and superintendent provide for the real need for vocational education, within the present system and limitation of funding?

Many assume that federal vocational education act funds are available for expansion of programs.

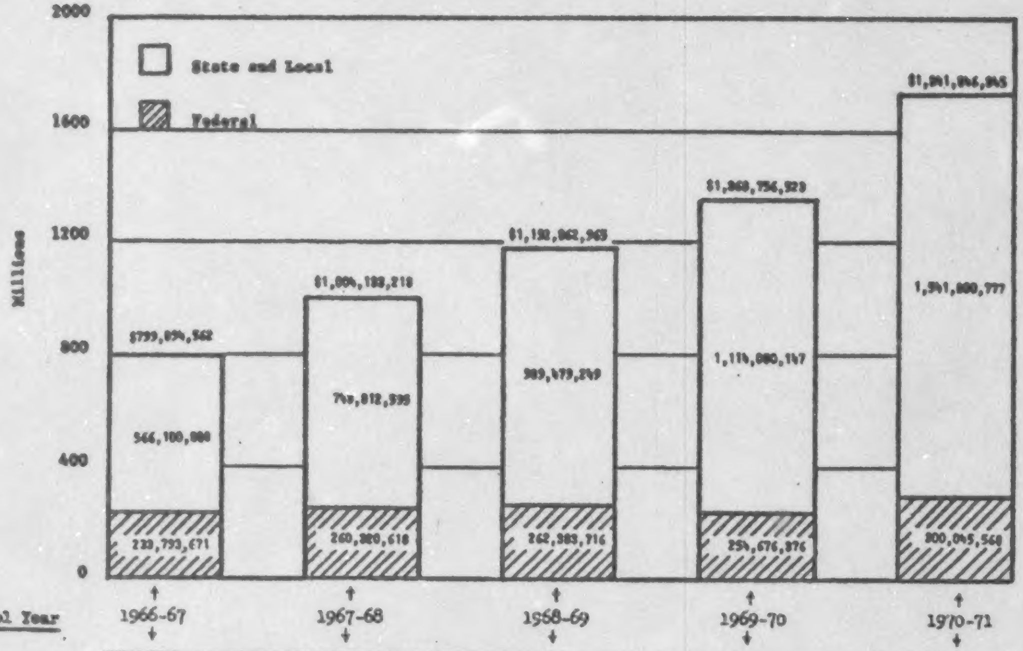
Actually, Federal vocational education funds have increased over the past several years, but the increase in funding has failed to keep

TABLE 13

NATIONWIDE

EXPENDITURES FOR VOCATIONAL EDUCATION - 1966-70

(Source: Annual Reports, Division of Vocational and Technical Education, 1966-1970)



School Year	1966-67	1967-68	1968-69	1969-70	1970-71
TOTAL ENROLLMENT IN VOCATIONAL EDUCATION	6,070,559	7,047,501	7,533,936	7,979,366	8,793,960
STATE & LOCAL FUNDS per ENROLLEE	$91.61	$105.54	$124.70	$139.62	$175.21
FEDERAL FUNDS per ENROLLEE	$38.52	$36.94	$34.83	$31.92	$34.12
California Average -- Costs per A.D.A.	586	630	704	765	N/A

up with the increase in numbers of students or the added costs per vocational student, which in effect has resulted in an actual decrease of support per vocational education student.

Although some school districts could still place a higher priority and allocate more of their resources to vocational education, the need for quality vocational education in Area V will not be met with the present level or system of funding.

The unpleasant truth is this. Many of us -- legislators, educators, and just plain citizens -- have criticized the school districts for their inadequate program and services and with some justification. But, while federal funding was making it possible to initiate many new vocational programs, the State was withdrawing its support. Now, as the costs per vocational student has increased more rapidly than the State or Federal support, the responsibility has fallen on the district to pick up the difference in cost, a responsibility which cannot be continued.

Recent judicial decisions have created an urgency for developing a more equitable means of funding school districts. It would be appropriate to revise the total system of financing so as to make it possible for all school districts to provide effective vocational education programs.

Recommendations

The State is faced with the responsibility of designing an equitable system for financing public education. The need to devise a system for financing vocational education as a State responsibility is equally critical.

It is recommended that the State develop and initiate a system for financing public education which provides for the financing of vocational education as a State responsibility.

It is recommended that the State consider the practicality of relating support of vocational education to achievement of students and placements in jobs rather than by the current basis of attendance in classrooms.

2. Accounting System

The school districts and community colleges follow accounting procedures for vocational education, part of which are prescribed by the State, and part of which are locally or county designed.

Those aspects of the accounting system, which are locally or county designed, tend to differ significantly from district to district.

Essentially, that part of the system which is uniform has to do with the placement of figures on paper. Some systems are largely manual, others are almost entirely electronic data processing.

Paradoxically, computer based data processing systems have already been designed and have been implemented for countywide utilization. Such programs exist for accounting of money and of students, for identification and recording of curriculum and equipment and, among others, for reporting costs per program and costs per student. (See California Education Information System.)

Countywide hookups are feasible. Telephone lines, computers, related equipment and personnel are all available. The countywide costs would be less than the countywide costs under the present localized mix of systems. Additional management information would be provided as a bonus. Fortunately, the only essential things that are needed are cooperation and coordination.

However, those with computers and the needed services risk an inconvenience by tying in with other districts. Those with no computer (nor service) risk being "swallowed up by the system."

The necessary coordination has not yet occurred.

Recommendations

It is recommended that information be acquired by County education offices on the present status of educational data processing systems in the two counties in Area V.

It is recommended that the State and the County educational and business officers in each County convene to establish a procedure and timetable for coordination of educational data processing systems.

3. Justification Procedures

The Vocational Education Act of 1963 and the Amendments of 1968 provided funds and a focus of attention which stimulated an expansion in vocational education throughout California and the nation.

In 1963, and again in 1968, it became necessary at the Federal level, and later at the State level, to express policies and procedures for implementing the intent of Congress.

Unfortunately, in some districts, the preparation of proposals, the reporting procedures, and the acceptance of another level (or levels) of supervision is so involved that districts seriously question whether the VEA funds are worth the effort.

Recommendation

It is recommended that the Vocational Education Section of the State Department of Education name a study committee to review funding procedures for the purpose of simplifying the paper work involved.

APPENDIX A

Area V Planning Committee

* * * *

Acknowledgements

VOCATIONAL EDUCATION PLANNING AREA V

Area Planning Committee

Representatives of the Governing Boards of Junior College Districts:

Mr. E. J. (Jay) Chinn, South County Joint Community College District
Mr. Kenneth L. Foster, Fremont/Newark Community College District
Dr. Lee R. Winters, Contra Costa Junior College District

Representative of the Department of Human Resources Development:

Mr. Mark Sanders, H.R.D. Administrator, Human Resources Development Center, Oakland

Public Members Who, Through Knowledge and Experience, are Representative of the Industries in the Area:

Mr. Philip Brubaker, Training Director, Standard Oil Co., Richmond
Mr. Ray Dones, Chairman of the Board, Trans-Bay Engineers & Builders, Inc., Oakland
Mr. Charles K. Hum, President, Aerospace Services, Inc., Oakland Airport
Mr. John Torres, Owner, Pittsburg Heating and Air Conditioning
Mrs. Patricia Cochrane, Pacific Telephone

Public Members Who are Knowledgeable About the Disadvantaged:

Mr. Frank Dodson, Electrical Engineer, Naval Air Station, Alameda

Representatives of Private Post-Secondary Educational Institutions:

Mr. William Z. Barnes, Owner/Operator, Dickinson-Warren School of Business, Berkeley
Mr. Morteza Fadavi, Director, Market Trade School, Oakland
Mr. Richard C. Ivey, Educator, Armstrong College, Berkeley

Representative from a County Office of Education:

Dr. Harley Sorensen, Coordinator of Special Curriculum Services, Alameda County Schools Department, Hayward

Area Vocational Committee (cont.)

Representatives of School Districts Maintaining High Schools Within the Area:

Mrs. Edith Draemel, Board Member, Mt. Diablo Unified School District
Mr. Barney E. Hilburn, Lawyer; Board Member, 12 years, Oakland Unified School District
Mr. J. Cecil Smith, Retired; Board Member San Leandro Unified School District

Assigned Liaison to Committee:

Mr. William Booth, Vocational Education Coordinator, Antioch Unified School District
Mr. Milford Brinkerhoff, Vocational Education Coordinator, Acalanes Union High School District
Mr. Arthur D'Braunstein, Chabot College (So. County Joint Jr. College District)
Mrs. Mary DeNure, Consultant, Public Service Programs, California Community Colleges, Chancellor's Office, Sacramento
Mr. William G. Fortman, Vocational Education Coordinator, Oakland Unified School District
Mr. M. Nick Konnoff, Vocational Education Coordinator, Castro Valley Unified School District
Mr. Robert C. Kvam, Vocational Education Coordinator, San Leandro Unified School District
Mr. Wilfred McKendry, Coordinator, Vocational and Adult Education, Contra Costa County Department of Education
Mr. James B. Mayo, Director, Fremont-Newark Regional Occupation Program
Mr. Walter H. Miller, Administrative Assistant, Vocational Education, Peralta Community College District
Dr. Robert Niederholzer, Ohlone College (Fremont/Newark Community College District)
Mr. Fred Sherwyn, Vocational Education Coordinator, Livermore Valley Joint Union School District
Mr. James W. Smith, Vocational Education Coordinator, San Ramon Valley Unified School District
Dr. Richard M. Wenstrom, Coastal Regional Coordinator, Vocational Education, Oakland
Mr. Milan Wight, Vocational Education Coordinator, Mt. Diablo Unified School District

Former Area Vocational Committee Members:

Mr. Jack K. Chapman
Mr. Donald Oliphant
Mrs. Arabella Springer
Miss Phyllis Woodward

Subcommittee Members:

Robert H. Benson	Employment Manager, U.S. Steel Company, Pittsburg
Don Boriolo	Coordinator, Voc. Ed., Alameda County Schools Department
Milford Brinkerhoff	Voc. Ed. Coord., Acalanes Union High School District
Pat Carter	Voc. Ed. Coord., Diablo Valley College, P.-H.
Charlsie Cook	Laney College, Oakland
Willie F. Dorsey	Chairman, N. Richmond Area Council (EOC)
Richard Felter	Coordinator, Distributive Industries Education Project, Contra Costa College, San Pablo
Gloria Garcia	Sandia Laboratories, Livermore
Frank Gibson	Deuel Vocational Institution, Tracy
Patrick Halligan	Richmond School District
Van Hankins	Assoc. Dean, Tech., Voc. Ed., Contra Costa Jr. College District, Martinez
Gregory Hisaka	Westcom Industries, Richmond
Larry Hunn	Westcom Industries, Richmond
Robert G. Hunter	Assoc. Dean of Instruction and Director of Tech.-Voc. Ed., Chabot College, Hayward
Josephine Jimenez	San Hidalgo Institute, Oakland
Robert Kvam	Supv. Voc. Ed. Coord., San Leandro Unified S. D.
Fred McKendry	Coord., Voc. and Adult Ed., CCC Dept. of Ed.
Robert Meier	Voc. Ed. Coord., Alameda Unified School Dist.
Robert Niederholzer	Ohlone College, Fremont
Virgie Noll	East Bay Regional Park District, Oakland
Jim N. Norris	AEC, El Cerrito
Richard Nunes	Coord., Guidance and Testing, CCC Dept. of Ed.
Evelyn Ostrander	Sandia Laboratories, Livermore
Ralph Petry	CAMPS, EOC, SPCCF, VCI, FYI, RCDC, Richmond
Dean Pratt	Canyon, California
Robert A. Rajander	Voc. Ed. Coord., Berkeley Unified School Dist.
LeRoy A. Ramsey	Dept. of Voc. Ed., Oakland
Merle L. Runolson	Voc. Ed. Coord., Hayward Unified School Dist.
Geo. Schwalm	Voc. Ed. Coord., San Lorenzo Unified S. D.
Howard L. Smalheiser	Walnut Creek, California
G. Louis Trapp	Pittsburg Unified School District
Eddie E. Washington	Oakland, California
Milan Wight	Coord., Work Experience Education, Mt. Diablo Unified School District
Tom Williams	Deuel Vocational Institute, Tracy

Staff, Vocational Education Planning Area V:

Director - William F. Banaghan, Ph. D.
Secretary - Ellice Darrow

Acknowledgements

Assembling of data into a document, such as this report, requires the good will and assistance of numerous individuals and agencies. The Committee is pleased to acknowledge this indebtedness.

It would like to express particular appreciation to the offices of the Alameda County School Department and the Contra Costa County Department of Education and to Mrs. Sue Grossman of Danville who, at the specific request of the Area Planning Staff, assembled and processed much of the data for the tables included in this report.

APPENDIX B

State of California Education Code

Article 10.4 Vocational Areas

STATE OF CALIFORNIA EDUCATION CODE

Article 10.4. Vocational Areas

Vocational Areas

6268. There are hereby created within the state a number of vocational areas, not to exceed 15, which shall have boundaries as determined, within 90 days after the effective date of this section, by the Director of Human Resources Development, the Director of Vocational Education, and the Chancellor of the California Community Colleges. Such areas shall, as far as possible, be developed along job market lines.

Area Vocational Committees

6268.2. In a minimum of four vocational areas, an area vocational committee shall be selected pursuant to Section 6268.8 to assume the responsibility of developing recommendations for the short-term improvement of existing vocational educational programs and a master plan for the improvement of vocational education within the area.

The selection of such vocational areas shall be made by the Director of Human Resources Development, the Director of Vocational Education, and the Chancellor of the California Community Colleges. The selected vocational areas shall be sufficiently representative of all the vocational areas to demonstrate the feasibility of extending this system of planning throughout the state.

Master Plan Considerations

6268.4. Development of a master plan pursuant to Section 6268.2 shall include, but not be limited to, consideration of the following areas:

(a) Assess whether a proper assortment, as measured by skill demands determined from local and area employment surveys, of programs in the educational curriculum is offered in the area, while avoiding unnecessary duplication of programs.

(b) Review quality standards of vocational instruction in the area.

(c) Assure that information derived from followup studies is shared among educational institutions offering vocational education.

(d) Encourage and assist local school districts to offer effective prevocational programs.

(e) Insure that guidance and counseling information relative to vocational education and occupational experience is made available to all junior high school, high school, and community college students in the area, and insure that a substantial part of such guidance and counseling is provided by business and industry personnel.

(f) Assist in arranging, wherever appropriate, for high school juniors and seniors to take courses in community college vocational programs.

(g) Assure that workable arrangements are established to grant advanced placement in vocational programs to outstanding high school graduates.

(h) Assure that remedial programs are available, in high schools, in adult schools, and in community colleges, to allow young people who desire to enter technical programs (or who desire to enter apprenticeship), but who lack the academic qualifications, to have the opportunity to acquire those qualifications.

(i) Encourage the greater use of cooperative or work experience education programs.

(j) Inform the public of the merits and strengths of vocational education to the end that vocational education will be moved toward a parity of esteem with all other curricular areas.

Membership of Area Vocational Committee

6268.6. Each area vocational committee shall be composed of 18 members, as follows: three representatives of the governing boards of junior college districts within the area; three representatives of school districts maintaining high schools within the area; one representative of the Department of Human Resources Development; and five public members who, through knowledge and experience, are representative of the industries in the area, two public members who are knowledgeable about the disadvantaged; three members representing private postsecondary educational institutions authorized or approved under the provisions of paragraph (2) of subdivision (a) of, and subdivisions (b), (c), and (d) of, Section 29007, and of Section 29007.5; and one person representing a county office of education within the region.

Membership Rotation

6268.7. Each area committee shall determine a system of membership rotation so that, after the first two years of operation, approximately one-third of the members will be replaced each year.

Membership of Area Vocational Committee: Selection

6268.8. The members of each area vocational committee shall be selected in the following manner:

(a) Each of the three representatives of the governing boards of local junior college districts within the area shall be selected by a majority vote of the governing boards of junior colleges within the area.

(b) Each of the three representatives of school districts maintaining high schools within the area shall be selected by a majority vote of the governing boards of school districts maintaining high schools within the area.

(c) The representative of the Department of Human Resources Development shall be selected by the Director of Human Resources Development.

(d) Each of the seven public members shall be selected jointly by the Director of Human Resources Development, the Director of Vocational Education, and the Chancellor of the California Community Colleges.

(e) The representative of a county office of education shall be selected by a majority vote of the county superintendents of schools in the region.

Compensation

6268.10. Members of each area vocational committee shall serve without compensation, but they shall receive their actual and necessary traveling expenses in performing their duties under this article.

Area Master Plan

6268.12. Each area vocational committee shall, within two years following the initial meeting of the committee, develop and submit to the State Board of Education and to the Board of Governors of the California Community Colleges, and to any other appropriate policymaking body, an area master plan providing for maximum coordination between vocational, technical, adult, and continuation education agencies within the area, together with recommendations for the implementation of such master plan in the area.

Special Reports

6268.14. Each area vocational committee shall, no later than March 1, 1971, report to the State Board of Education, the Board of Governors of the California Community Colleges, and the California Advisory Council on Vocational Education and Technical Training on the progress of each committee toward the development of a master plan, and the committee's recommendations on short-term improvement of existing vocational education programs.

The State Board of Education and the Board of Governors of the California Community Colleges shall report to the Legislature on the progress reports of the vocational education committees within 60 days after the board shall have received such reports.

State Master Plan

6268.16. Within one year of the receipt of the area plans from each of the area vocational committees, the State Board of Education and the Board of Governors of the California Community Colleges, with the advice of the California Advisory Council on Vocational Education and Technical Training, shall develop, and thereafter shall amend annually, the state master plan in accordance with area master plans.

Submission of State Master Plan to Legislature

6268.18. The State Board of Education and the Board of Governors of the California Community Colleges, jointly, shall submit annually to the Legislature the state master plan described in Section 6268.16, together with proposed legislation for the implementation of the master plan.

Legislative Intent

6268.20. It is the intent of the Legislature in enacting this article that the area vocational committees formed hereunder, in forming their area master plans, shall give due consideration to all relevant planning efforts in the vocational area, both prior and concurrent, and to planning guidelines developed by the State Board of Education, the Board of Governors of the California Community Colleges, and the California Manpower Coordinating Committee.

Legislative Intent

6268.22. It is the intent of the Legislature in enacting this article that the vocational education staff of both of the State Board of Education and the Board of Governors of the California Community Colleges, through the coordination of the Director of Vocational Education, shall be responsible for its implementation and administration.

WFB:ed
9/29/71
Rev. 4/72

APPENDIX C

Committee Work Plan for 1972-1973

1972-1973

AREA V

COMMITTEE WORK PLAN

Goal	Mission	T
1. To assess whether a proper assortment of programs is offered in the area, while avoiding unnecessary duplications of programs and to recommend priorities to be considered by program planners.	1.1 Interpret job market requirements determined from local and area employment surveys.	1.1.1 Collect avail ment surveys
		1.1.2 Estimate manp 1, 2 or 3 yea
		1.1.3 Interpret gen each occupati
		1.1.4 Interpret nee in number of
	1.2 Compile data on vocational programs presently being offered.	1.2.1 Tabulate numb offered.
		1.2.2 Tabulate numbe per year in e
		1.2.3 Tabulate numbe cupation or c who actually
	1.3 Recommend priorities for increase or decrease in programs and student enrollments.	1.3.1 Compare data f estimate unmet training.
	1.4 Evaluate reaction to recommendations of 11/71 and 4/72.	1.4.1 Relate recomme 4/72 to distri
		1.4.2 Assess constra implementation 11/71 and 4/72
		1.4.3 Re-assess reco
		1.4.4 Restate recomm
		1.4.5 Study & devise plementation o
▨ Essentially, these items have been accomplished.		

1972-1973

AREA V

COMMITTEE WORK PLAN

	Mission	Task
r a t of red in avoid- dup- grams con- m	1.1 Interpret job market requirements determined from local and area employment surveys.	1.1.1 Collect available and current employment surveys for Bay Area.
		1.1.2 Estimate manpower requirement for next 1, 2 or 3 years.
		1.1.3 Interpret general long-term trends for each occupation or cluster available.
		1.1.4 Interpret needed increase or decrease in number of employees projected.
	1.2 Compile data on vocational programs presently being offered.	1.2.1 Tabulate number and type of programs offered.
		1.2.2 Tabulate number of students prepared per year in each type program.
		1.2.3 Tabulate number prepared for each occupation or cluster of occupations who actually enter.
	1.3 Recommend priorities for increase or decrease in programs and student enrollments.	1.3.1 Compare data from 1.1 and 1.2 to estimate unmet needs and possible overtraining.
	1.4 Evaluate reaction to recommendations of 11/71 and 4/72.	1.4.1 Relate recommendations of 11/71 and 4/72 to district plans for 1972-73.
		1.4.2 Assess constraints which have limited implementation of recommendations of 11/71 and 4/72.
		1.4.3 Re-assess recommendations.
		1.4.4 Restate recommendations.
y, these ave been ished.		1.4.5 Study & devise alternatives for implementation of recommendations.

COMMITTEE WORK PLAN

Goal	Mission	T
2. To assure that quality standards of public and private vocational instruction in the area conforms to existing labor market needs.	2.1 Identify quality standards of existing programs.	2.1.1 Survey secon private progra
	2.2 Identify quality standards desired by entry-level jobs in Bay Area.	2.2.1 Survey industr government age standards.
	2.3 Recommend changes needed in program quality standards.	2.3.1 Compare presen standards. Id
	2.4 Evaluate reaction to recommendations of 11/71 & 4/72.	2.4.1 Survey to loca working for ch
	2.5 Identify successful procedures for stimilating change in standards.	
	2.6 Recommend procedures for stimulating change in standards.	
	2.7 Recommend individuals and agencies to foster changes in standards.	

COMMITTEE WORK PLAN

Mission		Task
lity ic ional area ng .	2.1 Identify quality standards of existing programs.	2.1.1 Survey secondary, post-secondary and private program standards.
	2.2 Identify quality standards desired by entry-level jobs in Bay Area.	2.2.1 Survey industry, business, unions, and government agencies for entry-level standards.
	2.3 Recommend changes needed in program quality standards.	2.3.1 Compare present standards with required standards. Identify changes needed.
	2.4 Evaluate reaction to recommendations of 11/71 & 4/72.	2.4.1 Survey to locate individuals and groups working for changes in standards.
	2.5 Identify successful procedures for stimilating change in standards.	
	2.6 Recommend procedures for stimulating change in standards.	
	2.7 Recommend individuals and agencies to foster changes in standards.	

COMMITTEE WORK PLAN

Goal	Mission	
3. To assure that information derived from follow-up studies is shared among educational institutions offering vocational education and that needed information is collected by follow-up studies.	3.1 Review present follow-up studies and dissemination procedures in Area V	3.1.1 Collect studi 3.1.2 Determine dis
	3.2 Identify desirable follow-up study and dissemination procedures.	3.2.1 Literature se 3.2.2 Interviews to information
	3.3 Recommend changes in procedures for follow-up studies and dissemination of results of such studies so as to improve the utilization of the resulting information by educational planners.	3.3.1 Compare actua niques for fo dissemination
	3.4 Evaluate reaction to recommendations of 11/71 & 4/72.	3.4.1 Relate recomm to district p

COMMITTEE WORK PLAN

	Mission	Task
forma- follow- red insti- voca- and mation ollow-	3.1 Review present follow-up studies and dissemination procedures in Area V	3.1.1 Collect studies. 3.1.2 Determine dissemination procedures.
	3.2 Identify desirable follow-up study and dissemination procedures.	3.2.1 Literature search. 3.2.2 Interviews to determine desirable information and data.
	3.3 Recommend changes in procedures for follow-up studies and dissemination of results of such studies so as to improve the utilization of the resulting information by educational planners.	3.3.1 Compare actual and desirabel techniques for follow-up studies and dissemination.
	3.4 Evaluate reaction to recommendations of 11/71 & 4/72.	3.4.1 Relate recommendations of 11/71 & 4/72 to district plans for 1972-73.

COMMITTEE WORK PLAN

Goal	Mission	T
4. To assure that local school districts offer effective prevocational programs.	4.1 Identify presently existing prevocational programs.	4.1.1 Define meanin program.
		4.1.2 Inventory pro terms of kind of students i
	4.2 Identify desirable types of prevocational programs which could be utilized.	4.2.1 Review litera prevocational
		4.2.2 Review ongoin as possible r
		4.2.3 Select prevoc plicable and
	4.3 Identify strategies for implementing such programs.	4.3.1 Describe restr resources nec
		4.3.2 Identify prob be made avail
	4.4 Recommend improvement of prevocational programs and a strategy for implementation of recommendations.	4.4.1 Review data fr identify desi procedures.

COMMITTEE WORK PLAN

	Mission	Task
al ffer	4.1 Identify presently existing prevocational programs.	4.1.1 Define meaning of "prevocational" program.
		4.1.2 Inventory programs being offered in terms of kinds of programs and numbers of students involved.
	4.2 Identify desirable types of prevocational programs which could be utilized.	4.2.1 Review literature for recommended prevocational curriculae.
		4.2.2 Review ongoing prevocational programs as possible recommended models.
		4.2.3 Select prevocational curriculae applicable and feasible to Area V.
	4.3 Identify strategies for implementing such programs.	4.3.1 Describe restraints and identify resources necessary for implementation.
		4.3.2 Identify probable resources that could be made available.
	4.4 Recommend improvement of prevocational programs and a strategy for implementation of recommendations.	4.4.1 Review data from 4.1, 4.2, and 4.3 to identify desirable and practical procedures.

COMMITTEE WORK PLAN

Goal	Mission	Ta
5. To assure that all students receive occupationally related counseling and guidance services.	5.1 Ascertain status of current guidance services.	5.1.1 Acquire resear Area V. 5.1.2 Interview guid 5.1.3 Interview stu
	5.2 Identify desirable procedural and philosophical approaches which could occur in guidance services.	5.2.1 Describe succe
	5.3 Identify strategies for implementing such approaches.	5.3.1 Ascertain the ural factors vices in favor manner. 5.3.2 Ascertain succ have been util
	5.4 Recommend procedures for improvement of programs and a strategy for implementing these recommendations.	5.4.1 Review data fr to identify d procedures.
	5.5 Evaluate reaction to recommendations of 11/71 & 4/72.	5.5.1 Relate recomm to district, and legislati

COMMITTEE WORK PLAN

	Mission	Task
ecu- dance	5.1 Ascertain status of current guidance services.	5.1.1 Acquire research data applicable to Area V. 5.1.2 Interview guidance personnel in Area V. 5.1.3 Interview students in Area V.
	5.2 Identify desirable procedural and philosophical approaches which could occur in guidance services.	5.2.1 Describe successful programs.
	5.3 Identify strategies for implementing such approaches.	5.3.1 Ascertain the financial and procedural factors affecting guidance services in favorable and unfavorable manner. 5.3.2 Ascertain successful strategies which have been utilized.
	5.4 Recommend procedures for improvement of programs and a strategy for implementing these recommendations.	5.4.1 Review data from 5.1, 5.2, and 5.3, to identify desirable practical procedures.
	5.5 Evaluate reaction to recommendations of 11/71 & 4/72.	5.5.1 Relate recommendations of 11/71 & 4/72 to district, county, and state plans and legislative activity.

COMMITTEE WORK PLAN

Goal	Mission	T
6. To assure that an articulated program in Vocational Education be established between community colleges and the secondary feeder schools in their area.	6.1 Estimate extent to which articulation now exists between high schools and community colleges.	6.1.1 Ascertain ext have been wri articulated.
		6.1.2 Ascertain ext granted to hi
		6.1.3 Ascertain ext students are community col
		6.1.4 Ascertain ext tional educat in high schoo school studen
	6.2 Estimate the reasonable and practical level for such articulation.	6.2.1 Ascertain add for which cre
		6.2.2 Ascertain ext which would b school studen
		6.2.3 Ascertain ext college vocat could be offer ities for hig
		6.2.4 Identify strat used to imple
	6.3 Recommend procedures for articulation of programs between secondary schools and community colleges and a strategy for implementation of these recommendations.	6.3.1 Review data fr select recomm strategy for

COMMITTEE WORK PLAN

	Mission		Task	
artic- Voca- e n and er rea.	6.1	Estimate extent to which articulation now exists between high schools and community colleges.	6.1.1	Ascertain extent to which standards have been written for programs to be articulated.
			6.1.2	Ascertain extent to which credit is granted to high school graduates.
			6.1.3	Ascertain extent to which high school students are in dual attendance with community college vocational programs.
			6.1.4	Ascertain extent to which college vocational education programs are offered in high school facilities for high school students.
	6.2	Estimate the reasonable and practical level for such articulation.	6.2.1	Ascertain additional curriculum units for which credit could be granted.
			6.2.2	Ascertain extent of additional programs which would be appropriate for high school students.
			6.2.3	Ascertain extent to which additional college vocational education programs could be offered in high school facilities for high school students.
			6.2.4	Identify strategies which have been used to implement such procedures.
	6.3	Recommend procedures for articulation of programs between secondary schools and community colleges and a strategy for implementation of these recommendations.	6.3.1	Review data from 6.1 and 6.2 to select recommended priorities and a strategy for implementation.

COMMITTEE WORK PLAN

Goal	Mission	
6. (continued)	6.4 Evaluate reaction to recommendations of 11/71 & 4/72.	6.4.1 Relate recomm to district p figures.

COMMITTEE WORK PLAN

	Mission	Task
	6.4 Evaluate reaction to recommendations of 11/71 & 4/72.	6.4.1 Relate recommendations of 11/71 & 4/72 to district plans and enrollment figures.

COMMITTEE WORK PLAN

Goal	Mission	
7. To assure that all vocational programs which include academic and/or literacy standards for successful completion, have articulated prevocational and vocational level remedial programs available.	7.1 Identify extent to which remedial programs now exist.	7.1.1 Define "remed
		7.1.2 Inventory pro terms of kind and numbers o
	7.2 Identify additional needs for remedial programs.	7.2.1 Inventory nee various kinds ing achieveme
	7.3 Identify desirable types of programs which might be utilized to fill unmet needs.	7.3.1 Inventory ins accomplishing achievements.
		7.3.2 Review litera of learning u
	7.4 Recommend procedures for expansion and improvement of remedial programs and a strategy for implementing such recommendations.	7.4.1 Review data f ascertain pri of units and

COMMITTEE WORK PLAN

	Mission	Task
voca- hich in- /or for tion, re- a- ial .	7.1 Identify extent to which remedial programs now exist.	7.1.1 Define "remedial programs." 7.1.2 Inventory programs being offered in terms of kinds of remedial programs and numbers of students involved.
	7.2 Identify additional needs for remedial programs.	7.2.1 Inventory needs of students for various kinds of supplementary learning achievements assistance.
	7.3 Identify desirable types of programs which might be utilized to fill unmet needs.	7.3.1 Inventory instructional units for accomplishing needed learning achievements. 7.3.2 Review literature for specific types of learning units.
	7.4 Recommend procedures for expansion and improvement of remedial programs and a strategy for implementing such recommendations.	7.4.1 Review data from 7.1, 7.2, and 7.3 to ascertain priorities for implementing of units and appropriate strategies.

COMMITTEE WORK PLAN

Goal	Mission			
8. To assure that an optimum assortment of learning situations (e.g. cooperative or work experience programs) is utilized.	8.1	Determine the types of learning situations presently being utilized and the extent to which such situations are now used.	8.1.1	Review types ogy utilized
	~~8.2~~	~~Identify other kinds of learning situations which could be made available.~~	~~8.2.1~~	~~Review liter of instructio might be uti education.~~
	8.3	Ascertain strategies for maximum utilization of all learning situations.	~~8.3.1~~	~~Confer with et al, to asc strategies fo procedures.~~
	8.4	Recommend changes in the utilization of types of learning situations and a strategy for implementing such recommendations.	8.4.1	Review data f select kinds which should strategies fo

COMMITTEE WORK PLAN

	Mission	Task
t of ns or rograms)	8.1 Determine the types of learning situations presently being utilized and the extent to which such situations are now used.	8.1.1 Review types of instruction methodology utilized in vocational education.
	8.2 Identify other kinds of learning situations which could be made available.	8.2.1 Review literature on additional types of instructional methodology which might be utilized in vocational education.
	8.3 Ascertain strategies for maximum utilization of all learning situations.	8.3.1 Confer with teachers, coordinators, et al, to ascertain restraints and strategies for implementing such procedures.
	8.4 Recommend changes in the utilization of types of learning situations and a strategy for implementing such recommendations.	8.4.1 Review data from 8.1, 8.2, and 8.3 to select kinds of learning situations which should be encouraged and strategies for implementation.

COMMITTEE WORK PLAN

Goal	Mission	Ta
8.A (cont.)	8.A.7 Ascertain strategies for maximum utilization of Exploratory Work Experience education.	8.A.7.1 Confer with students and strategies f of Explorato education.
	8.A.8 Ascertain strategies for maximum utilization of General Work Experience education.	8.A.8.1 Confer with students and strategies f of General W
	8.A.9 Ascertain strategies for maximum utilization of Vocational Work Experience education.	8.A.9.1 Confer with students and strategies f of Vocationa cation.
	8.A.10 Ascertain strategies which would maximize and balance the Work Experience education.	8.A.10.1 Review data 8.A.3.1, 8.A 8.A.7.1, 8.A select strat

COMMITTEE WORK PLAN

Mission		Task	
8.A.7	Ascertain strategies for maximum utilization of Exploratory Work Experience education.	8.A.7.1	Confer with teachers, coordinators, students and employers to ascertain strategies for increasing utilization of Exploratory Work Experience education.
8.A.8	Ascertain strategies for maximum utilization of General Work Experience education.	8.A.8.1	Confer with teachers, coordinators, students and employers to ascertain strategies for increasing utilization of General Work Experience education.
8.A.9	Ascertain strategies for maximum utilization of Vocational Work Experience education.	8.A.9.1	Confer with teachers, coordinators, students and employers to ascertain strategies for increasing utilization of Vocational Work Experience education.
8.A.10	Ascertain strategies which would maximize and balance the Work Experience education.	8.A.10.1	Review data from 8.A.1.1, 8.A.2.1, 8.A.3.1, 8.A.4.1, 8.A.5.1, 8.A.6.1, 8.A.7.1, 8.A.8.1, and 8.A.9.1 to select strategies for implementation.

COMMITTEE WORK PLAN

Goal	Mission	T
8.A To assure that an optimum assortment of cooperative and work experience programs is utilized.	8.A.1 Ascertain the extent to which Exploratory Work Experience education exists in Area V	8.A.1.1 Survey publ community c number of p volved in E education.
	8.A.2 Ascertain the extent to which General Work Experience education exists in Area V.	8.A.2.1 Survey publ community c number of p volved in G education.
	8.A.3 Ascertain the extent to which Vocational Work Experience education exists in Area V.	8.A.3.1 Survey publ community c number of p volved in Vo education.
	8.A.4 Ascertain restraints which limit utilization of Exploratory Work Experience education.	8.A.4.1 Confer with and employer to effective perience pro
	8.A.5 Ascertain restraints which limit utilization of General Work Experience education.	8.A.5.1 Confer with and employer to effective programs.
	8.A.6 Ascertain restraints which limit utilization of Vocational Work Experience education.	8.A.6.1 Confer with and employer to effective perience pro

COMMITTEE WORK PLAN

Mission		Task	
8.A.1	Ascertain the extent to which Exploratory Work Experience education exists in Area V	8.A.1.1	Survey public secondary schools and community colleges to ascertain number of programs and students involved in Exploratory Work Experience education.
8.A.2	Ascertain the extent to which General Work Experience education exists in Area V.	8.A.2.1	Survey public secondary schools and community colleges to ascertain number of programs and students involved in General Work Experience education.
8.A.3	Ascertain the extent to which Vocational Work Experience education exists in Area V.	8.A.3.1	Survey public secondary schools and community colleges to ascertain number of programs and students involved in Vocational Work Experience education.
8.A.4	Ascertain restraints which limit utilization of Exploratory Work Experience education.	8.A.4.1	Confer with students, coordinators and employers to ascertain barriers to effective Exploratory Work Experience programs.
8.A.5	Ascertain restraints which limit utilization of General Work Experience education.	8.A.5.1	Confer with students, coordinators and employers to ascertain barriers to effective General Work Experience programs.
8.A.6	Ascertain restraints which limit utilization of Vocational Work Experience education.	8.A.6.1	Confer with students, coordinators and employers to ascertain barriers to effective Vocational Work Experience programs.

COMMITTEE WORK PLAN

Goal	Mission	Tas
9. To assure that vocational education acquires a parity of esteem with all other curriculum areas and a recognition of the intrinsic value of all occupational education programs.	9.1 Assess public attitudes toward vocational education.	9.1.1 Review research attitude of voc 9.1.2 Interview vario toward vocatio
	9.2 Ascertain effective procedures for improving image of vocational education.	9.2.1 Interview vocat training educat procedures for value of vocat
	9.3 Recommend programs and/or procedures for improving the image of vocational education.	9.3.1 Review data fro select prioriti strategies.

COMMITTEE WORK PLAN

	Mission	Task
tional a with um ltion lue	9.1 Assess public attitudes toward vocational education.	9.1.1 Review research literature re public attitude of vocational education.
		9.1.2 Interview various public re attitudes toward vocational education.
	9.2 Ascertain effective procedures for improving image of vocational education.	9.2.1 Interview vocational educators and training educators, etc., re effective procedures for informing public of value of vocational education.
	9.3 Recommend programs and/or procedures for improving the image of vocational education.	9.3.1 Review data from 9.1, and 9.2 to select priorities in needs and strategies.

COMMITTEE WORK PLAN

Goal	Mission	Ta
10. To assure that representatives from all groups that are to be affected by the program be actively involved in the planning of curriculum for vocational education and that such people be involved in the implementation of these programs.	10.1 Ascertain who is now involved in the planning and implementation of vocational education.	10.1.1 Review member advisory grou tional educat professional their role in tional educat
	10.2 Identify kinds of people who should be involved but who tend to be left out.	10.2.1 Acquire infor would acquire from vocation directly or i
		10.2.2 Acquire infor might be inst vocational ed or indirectly
		10.2.3 Select repres who should be for vocationa
	10.3 Identify procedures for involving such people.	10.3.1 Investigate p appropriate f in program pl
	10.4 Recommend procedures whereby representatives of all groups having a vested interest in vocational education have the opportunity to be involved in the planning process and the implementation of such plans.	10.4.1 Review data f 10.3 to selec and strategie

COMMITTEE WORK PLAN

	Mission		Task	
ep- a all to be pro- in- nning vo- on and be imple- e	10.1	Ascertain who is now involved in the planning and implementation of vocational education.	10.1.1	Review memberships of planning and advisory groups involved in vocational education. Sample vocational professionals for understanding of their role in planning of vocational education.
	10.2	Identify kinds of people who should be involved but who tend to be left out.	10.2.1	Acquire information on people who would acquire significant benefit from vocational education, either directly or indirectly.
			10.2.2	Acquire information on people who might be instrumental in providing vocational education, either directly or indirectly.
			10.2.3	Select representative kinds of people who should be involved in planning for vocational education.
	10.3	Identify procedures for involving such people.	10.3.1	Investigate procedures which might be appropriate for involving such people in program planning.
	10.4	Recommend procedures whereby representatives of all groups having a vested interest in vocational education have the opportunity to be involved in the planning process and the implementation of such plans.	10.4.1	Review data from 10.1, 10.2, and 10.3 to select priorities in needs and strategies.

COMMITTEE WORK PLAN

Goal	Mission	Ta
11. To assure opportunity for participation in appropriate vocational education programs for all people in Area V.	11.1 Ascertain the degree to which equal opportunity exists for vocational education for all segments of society.	11.1.1 Acquire censu enrollment da gram enrollm
	11.2 Identify barriers to equal opportunity.	11.2.1 Review with minority and cators, et al education op
	11.3 Ascertain procedures for eliminating barriers.	11.3.1 Review proce districts wh provided voc students. 11.3.2 Ascertain suc
	11.4 Recommend changes in procedure and policies to eliminate barriers which limit opportunity to participate in vocational education by any segment of society.	11.4.1 Review data 11.3 to selec and strategie

COMMITTEE WORK PLAN

	Mission	Task
nity in ional s for a V.	11.1 Ascertain the degree to which equal opportunity exists for vocational education for all segments of society.	~~11.1.1 Acquire census data on public school enrollment data, and vocational program enrollment data.~~
	11.2 Identify barriers to equal opportunity.	11.2.1 Review with representatives of minority and low income groups, educators, et al, barriers to vocational education opportunities.
	11.3 Ascertain procedures for eliminating barriers.	11.3.1 Review procedures used in school districts which have successfully provided vocational education for all students. 11.3.2 Ascertain successful strategies.
	11.4 Recommend changes in procedure and policies to eliminate barriers which limit opportunity to participate in vocational education by any segment of society.	11.4.1 Review data from 11.1, 11.2, and 11.3 to select priorities in needs and strategies.

APPENDIX D

Bibliography

BIBLIOGRAPHY

The following articles and publications were among those used for background information by the Committee, sub-committees, and liaison personnel for submission of this report.

A number of the publications were applicable for several areas of study, but, for simplification, are listed only once in this bibliography.

CURRICULUM - PROGRAMS

A GUIDE FOR THE DEVELOPMENT OF CURRICULUM IN VOCATIONAL AND TECHNICAL EDUCATION, Division of Vocational Education, University of California, Los Angeles, June 1969.

A GUIDE TO THE DEVELOPMENT OF VOCATIONAL EDUCATION PROGRAMS AND SERVICES FOR THE DISADVANTAGED. New York: National Committee on Employment of Youth, October 1969.

AIAA MONITOR (The), Vol. 2, No. 1, The American Industrial Arts Association, Washington, D.C., Fall 1970.

A PHASED IMPLEMENTATION PLAN FOR CAREER EDUCATION IN THE L. A. CITY SCHOOLS, K-12 and ADULT LEVELS, Preliminary Proposal for PROJECT TRACE, Los Angeles Unified School District, Division of Career & Continuing Education, June 7, 1971.

A POLICY & SYSTEM STUDY OF CALIFORNIA VOCATIONAL EDUCATION, "A Framework for Program Development of a New, Comprehensive, and Integrated Approach to Education and Work," prepared by Arthur D. Little, Inc., California State Board of Education, Sacramento, California, 1970.

AREA MANPOWER REVIEW, S. F.-Oakland Standard Metropolitan Statistical Area, Annual Outlook & Planning Report, Dept. of H. R. D., State of California, 1971 and 1972 editions.

A RESEARCH REPORT: EDUCATION IN AGRICULTURE IN CALIFORNIA (Occupational Needs & Future Demands), coordinated by Liaison Committee for Agriculture, Dept. of Applied Behavioral Sciences, College of Agriculture & Enviromental Sciences, University of California at Davis, August 1971.

Bay Area Council (The), BAY AREA FACTS, "Evaluation of Bay Area Economic Studies," San Francisco, April 1969.

Bay Area Council (The), REGIONAL REPORTS (Kenneth F. Evansco, Editor), published monthly from San Francisco.

Bay Area Council (The), SAN FRANCISCO BAY AREA, INDUSTRIAL DEVELOPMENT GUIDE AND ECONOMIC REVIEW, San Francisco, January 1970.

CALIFORNIA LABOR MARKET BULLETINS (monthly), Human Relations Agency, Dept. of H. R. D., Research & Statistics Section, Sacramento, California.

CALIFORNIA MANPOWER NEEDS - SUPPLEMENT, Vol. 1, VOCATIONAL EDUCATION (Report 400W #37), Human Relations Agency, Dept. of H. R. D., Management Services Division, Research and Statistics, State of California, November 1970.

CALIFORNIA MANPOWER NEEDS - SUPPLEMENT, Vol. II, OCCUPATIONS WITHOUT PUBLIC VOCATIONAL TRAINING PROGRAMS (Report 400W #38), State of California, November 1970.

CALIFORNIA MANPOWER NEEDS TO 1975 (second edition), California Dept. of H. R. D., Division of Research & Statistics, Sacramento, California, Oct. 1969.

COMPREHENSIVE MANPOWER PLAN, FISCAL YEAR 1972, Alameda County Area CAMPS Committee, Cooperative Area Manpower Planning System, Area Manpower Coordinating Committees, March 19, 1971.

COMPREHENSIVE MANPOWER PLAN, FISCAL YEAR 1973, Alameda County Manpower Area Planning Council, Oakland, California, April 12, 1972.

EAST BAY MANPOWER SURVEY, ALAMEDA COUNTY, 1966-1971, California Dept. of Employment with City of Oakland (701 Project), Coastal Area Office, July 1967.

FAULT TREE ANALYSIS: A RESEARCH TOOL FOR EDUCATIONAL PLANNING, Technical Report No. 1, Alameda County School Dept. P A C E Center, Hayward, California, October 1968.

Hilton, E. P. and Gyuro, Steven J., A SYSTEMS APPROACH - 1970, VOCATIONAL EDUCATION HANDBOOK FOR STATE PLAN DEVELOPMENT AND PREPARATION, Bureau of Vocational Education, State Dept. of Education, Frankfort, Kentucky, 1970.

Lathrop, Irvin, and Farr, Wilbur, A STUDY OF THE RELATIONSHIP OF INDUSTRIAL ARTS EDUCATION TO VOCATIONAL TRADE-TECHNICAL EDUCATION IN CALIFORNIA, California State College at Long Beach, California, 1968.

Manpower Area Planning Council: Alameda County, "Economic Analysis," Oakland, March 1972.

MONTHLY CONTRACT STATUS REPORT: "Quantitative Assessment of Present and Future Occupational Needs and Opportunities," General Research Corporation, Systems Research Division, Santa Barbara, California, January 18, 1972.

MONTHLY CONTRACT STATUS REPORT: "Quantitative Assessment of Present and Future Occupational Needs and Opportunities," General Research Corporation, Systems Research Division, Santa Barbara, California, March 28, 1972.

OCCUPATIONAL MANPOWER AND TRAINING NEEDS, Bulletin 1701, U.S. Dept. of Labor, Bureau of Labor Statistics, Washington D.C., 1971.

Olson, Jerry C., CURRICULUM IMPLICATIONS FOR AN EDUCATIONAL SYSTEM THAT MEETS THE NEEDS OF DISADVANTAGED STUDENTS. New York: National Committee on Employment of Youth. Presented at the National Workshop on Voc. Ed., for the Disadvantaged, Atlantic City, N.J., March 1969.

ORGANIZING FOR ECONOMIC UNDERSTANDING, A Progress Report, Contra Costa County Dept. of Education, Model School Economics Project, Pleasant Hill, California.

SAN FRANCISCO BAY AREA REPORT - A STUDY OF GROWTH & ECONOMIC STATURE OF THE NINE BAY AREA COUNTIES, Security Pacific National Bank, Economic Research Division, San Francisco, California, April 1971.

SAN FRANCISCO-OAKLAND LABOR MARKET BULLETINS (monthly), Northern California Research & Statistics, Dept. of H.R.D., San Francisco, California.

Schrank, Robert and Stein, Susan, TURNING VOCATIONAL EDUCATION TO THE DISADVANTAGED: WORKING WITH THE EMPLOYERS AND UNION. New York:. National Committee on Employment of Youth. Presented at the National Workshop on Voc. Ed. for the Disadvantaged, Atlantic City, N.J., March 1969.

SECOND ANNUAL REPORT of the California Advisory Council on Vocational Education and Technical Training, Sacramento, California, November 1971.

SUMMARY OF ANTICIPATED STUDENT ENROLLMENTS & PROGRAMS IN VOCATIONAL EDUCATION IN PUBLIC SCHOOLS AND COMMUNITY COLLEGES IN ALAMEDA & CONTRA COSTA COUNTIES 1971-72, Vocational Education Planning Area V, October 1971.

Switzer, Mary E., "Coordination," excerpt from COORDINATION: A PROBLEM AND A PROMISE, Journal of Rehabilitation, March-April 1969.

VOCATIONAL EDUCATION ADVISORY COMMITTEES, Peralta Community College District, 1971-72.

VOCATIONAL INVENTORY SHEET SUMMARY OF LOCAL SCHOOLS, Area XII Vocational Planning Committee (San Diego-Imperial Counties), San Diego, June 1971.

RELATED SERVICES

Guidance & Counseling

Bottoms, Gene and Matheny, Kenneth B., OCCUPATIONAL GUIDANCE, COUNSELING, AND JOB PLACEMENT FOR JUNIOR AND SECONDARY SCHOOL YOUTH, Georgia State Department of Education and Georgia State College.

CAREER GUIDANCE, A California Model for Career Development K-Adult (Preliminary Draft), California State Dept. of Education, Bureau of Pupil Personnel Services, Sacramento, California, December 1971.

CAREER GUIDANCE DEVELOPMENT PROJECT (report), Alameda County School Department, Hayward, California.

COUNSELOR EDUCATION...A PROGRESS REPORT ON STANDARDS, "Discussion, Reaction, & Related Papers," APGGA National Convention, April 1962.

Holland, John, THE ACT GUIDANCE PROFILE, Two-Year College Edition, Research & Development Division, The American College Testing Program, 1968.

INDEX OF VOCATIONAL TRAINING SCHOOLS, Northern Regional Office, State Dept. of Rehabilitation, Berkeley, California, September 1971.

Laner, Stephen, SECOND SURVEY OF HIGH SCHOOL STUDENTS' NEEDS FOR LABOR MARKET INFORMATION IN CAREER DECISION-MAKING (Fremont High School, Oakland), Human Factors in Technology Research Group, Dept. of Industrial Engineering & Operations Research, University of California, Berkeley, October 1971.

NATIONAL CONFERENCE ON GUIDANCE, COUNSELING, AND PLACEMENT IN CAREER DEVELOPMENT AND EDUCATION OCCUPATIONAL DECISION-MAKING (Proceedings of), University of Missouri, Columbia, Missouri, October 20-24, 1970.

PERSONNEL AND GUIDANCE JOURNAL, Technology in Guidance, Vol. 49, No. 3, American Personnel and Guidance Association, Washington, D.C., Nov. 1970.

PROGRESS REPORT AND RECOMMENDATIONS, Area V Vocational Committee, Vocational Education Planning Area V, November 29, 1971.

Thal-Larsen, Margaret, FIRST SURVEY OF HIGH SCHOOL STUDENTS' NEEDS FOR LABOR MARKET INFORMATION IN CAREER DECISION-MAKING (Berkeley High School), Human Factors, in Technology Research Group, Dept. of Industrial Engineering & Operations Research, University of California, Berkeley, May 1971.

THE RULES OF SPECIAL EDUCATION EXPLAINED, State Dept. of Public Instruction, Des Moines, Iowa, 1967.

VOCATIONAL EDUCATION FOR HANDICAPPED PERSONS HANDBOOK FOR PROGRAM IMPLEMENTATION, U.S. Office of Education grant, U.S. Dept. of H.E.W., August 1969.

Follow-Up

Donaldson, Evelyn T., THREE DISTRICT COMPOSITE REPORT, PROJECT SEARCH, A FIVE YEAR FOLLOW-UP STUDY OF HIGH SCHOOL GRADUATES, Sequoia Union High School District, Sunnyvale, California, June 1969.

Edler, Lawrence A., SANTA CRUZ COUNTY SCHOOLS STUDENT FOLLOW-UP SURVEY, Santa Cruz, California, April 1968.

INSTITUTIONAL EXPERIENCE SUMMARY, 1969 Parole Releases, Division of Research, Dept. of the Youth Authority, State of California, Sacramento, California, September 1971.

Lewis, Joan M., THEY CAME TO CONTRA COSTA COLLEGE, Special Projects, Contra Costa College, San Pablo, California, Fall 1968.

Little, J. Kenneth, REVIEW AND SYNTHESIS OF RESEARCH ON THE PLACEMENT AND FOLLOW-UP OF VOCATIONAL EDUCATION STUDENTS, Ohio State University, Columbus, Ohio, Center for Vocational and Technical Education, February 1970.

McClaren, Violet, et. al., FOLLOW-UP STUDY CLASS OF 1964, SAN LEANDRO UNIFIED SCHOOL DISTRICT, San Leandro, California, November 1971.

PUBLIC WELFARE IN CALIFORNIA 1969-70, Annual Statistical Report, Series AR 1-12, Research & Statistics, Human Relations Agency, Dept. of Social Welfare, State of California, Sacramento, California.

Seckel, Joachim P., INTERIM ASSESSMENT OF THE JOBS RELATED TO TRAINING PROJECT, Educational Research Series, Report No. 1, Division of Research, Dept. of the Youth Authority, State of California, December 1970.

William, Robert, et. al., FOLLOW-UP STUDY CLASS OF 1965, OAKLAND UNIFIED SCHOOL DISTRICT, Dept. of Counseling and Occupational Information, Oakland, California. -, 1967, 1968, 1969.

Cooperative and Work Experience

AMERICAN EDUCATION, "A Chance on the Outside," (reprint), U.S. Department of H.E.W., Washington D.C., April 1966.

CLUSTERS OF TASKS ASSOCIATED WITH PERFORMANCE OF MAJOR TYPES OF OFFICE WORK, Research Project by Washington State University, California State Dept. of Education, Bureau of Business Education, January 1968.

GUIDELINES FOR COMMUNITY COLLEGE WORK EXPERIENCE EDUCATION, Office of the Chancellor, California Community Colleges, Sacramento, California, 1972.

INSTITUTIONAL EXPERIENCE SUMMARY, 1970, State of California, Sacramento, California, June 1971.

NEWS LETTER of the Contra Costa County Development Association, Vol. XX, No. 3, Martinez, California, March 1972.

PROGRAM DESCRIPTION AND STATISTICAL SUMMARY. . . Annual Report, Human Relations Agency, Dept. of the Youth Authority, State of California, Sacramento, California, 1970.

WORK EXPERIENCE EDUCATION HANDBOOK, Vocational Section, California State Department of Education, Sacramento, California, 1970.

COURSES OFFERED BY CALIFORNIA SCHOOLS, Approved under Title 38 - U.S. Code and authorized or approved under Division 21, California Education Code, California State Dept. of Education, Sacramento, California, 1970.

QUALITY STANDARDS

ACCOUNTABILITY IN VOCATIONAL EDUCATION - The Key to a Responsible Manpower Delivery System, presented by Richard S. Nelson, Chief, Program Operation Unit, Vocational Education, to the 33rd Annual Conference on Industrial Education, March 17-18, 1971, Oakland, California.

CALIFORNIA STATE PLAN FOR VOCATIONAL EDUCATION, Part I--Administrative Provisions, State of California, Sacramento, 1970.

CONFERENCE ON COMMUNICATION: BARRIERS TO SUCCESSFUL MINORITY EMPLOYMENT (proceedings of), Alameda County School Dept. P A C E Center, Hayward, California, May 21, 1970.

Cook, Desmond, L., PROGRAM EVALUATION AND REVIEW TECHNIQUE, Applications in Education, U.S. Dept. of H. E. W., Office of Education, Washington, D.C., 1966.

FEASIBILITY OF PROVIDING TRADE COMPETENCY EXAMINATIONS FOR TEACHERS ON A NATIONAL BASIS (Final Report), Dept. of Vocational-Technical Education, Graduate School of Education, Rutgers - The State University, New Jersey, 1967.

IMPLEMENTATION OF THE STULL BILL and A MODEL PLAN FOR EVALUATION OF CERTIFICATED STAFF IN THE MANAGEMENT OF LEARNING, Alameda County School Department, Hayward, California, March 1972.

Kazanas, H. C. and Kieft, L. D., AN EXPERIMENTAL PROJECT TO DETERMINE MORE EFFECTIVE EXAMINATIONS, Michigan State Board of Control for Vocational Education, Lansing, Michigan, August 1966.

LEGISLATION AND RECOMMENDATIONS IN EDUCATIONAL ACCOUNTABILITY: GOALS AND EVALUATION, PPBS, and THE STULL BILL, Management Action Paper (MAP), Vol. 1, No. 9, Association of California School Administrators, Burlingame, California, April 15, 1972.

Postlethwait, S. N., "Teaching Tools and Techniques," AN AUDIOTUTORIAL APPROACH TO TEACHING, reprint from PACIFIC SPEECH, Vol. 1, No. 4, University of Hawaii, Honolulu, January 1967.

STANDARDS & CRITERIA FOR THE EVALUATION AND RECOGNITION OF ILLINOIS PUBLIC JUNIOR COLLEGES AND OTHER GUIDELINES, POLICIES AND PROCEDURES APPROVED BY THE ILLINOIS JR. COLLEGE BOARD, Illinois Jr. College Board, Springfield, Illinois, December 1967.

Swanson, J. Chester, (Professor of Educational Administration), VOCATIONAL-TECHNICAL EDUCATION IN CONTRA COSTA COUNTY, School of Education, University of California, Berkeley, California, 1969.

Swanson, J. Chester, VOCATIONAL-TECHNICAL EDUCATION IN ALAMEDA COUNTY, School of Education, University of California, Berkeley, California, 1969.

ARTICULATION

ARTICULATION COMMITTEE REPORT, California Society of Park and Recreation Educators, Sacramento, California, March 4, 1972.

Chabot College, 1971-72 Catalog, Hayward, California.

College of Alameda, 1971-72 Catalog, Alameda, California.

Contra Costa College, 1971-72 Catalog & Announcement of Courses, San Pablo, California.

Coombs, Arthur W., "The Myth of Competition," CHILDHOOD EDUCATION, Vol. 33, No. 6, Journal of the Association for Childhood Education International, Washington, D. C., February 1957.

Diablo Valley College, 1971-72 Catalog & Announcement of Courses, Pleasant Hill, California.

Feather River College, Catalog 1971-72, Quincy, California.

Laney College, 1971-72, Oakland, California.

LEARN TO EARN, Eden Area Vocational Programs, Castro Valley, San Leandro, & San Lorenzo Unified School Districts, Summer Session 1972.

Merritt College, 1971-72, Oakland, California.

OCCUPATIONAL EDUCATION CENTER (Program), Mt. Diablo Unified School District, Concord, California, Summer Session 1972.

Ohlone College, 1971-72 Catalog, Fremont, California.

SOCIAL SERVICES - A SUGGESTED ASSOCIATE DEGREE CURRICULUM, California Community Colleges, Chancellor's Office, Sacramento, California, March 1972.

"Veysey Bill," State of California Education Code, Article 10.4, Sections 6401 and 6402.

PUBLIC IMAGE

BAY AREA COMMUNITY COLLEGE OCCUPATIONAL CURRICULUM GUIDE, Bay Area Vocational Coordination Committee, published jointly by Alameda County School Department and the Contra Costa County Department of Education, March 1971.

Fuller, Edgar and Person, Jim B., EDUCATION IN THE STATES: NATIONWIDE DEVELOPMENT SINCE 1900, Project of the Council of Chief State School Officers, National Education Association of the United States, Washington, D. C., 1969.

OCCUPATIONAL PROGRAMS IN CALIFORNIA PUBLIC COMMUNITY COLLEGES, 1971-72, Office of the Chancellor, California Community Colleges, Sacramento, California, November 1971.

BUSINESS SERVICES

CALIFORNIA EDUCATION INFORMATION SYSTEM (CEIS), California State Dept. of Education, Sacramento, California, October 18, 1969.

TRENDS IN VOCATIONAL EDUCATION, Vocational Education Information No. III, U.S. Dept. of H.E.W., Bureau of Adult, Vocational & Technical Education, Div. of Vocational & Technical Education, Washington, D.C., June 1971.

Warren, Dr. John T., "Different Curricula Costs," from Ph.D. dissertation entitled DIFFERENTIAL COSTS OF CURRICULA IN ILLINOIS PUBLIC JR. COLLEGES, Comprehensive-Community COLLEGE BULLETIN, Vol. VI, No. 9, Illinois Jr. College Board, March 1972.